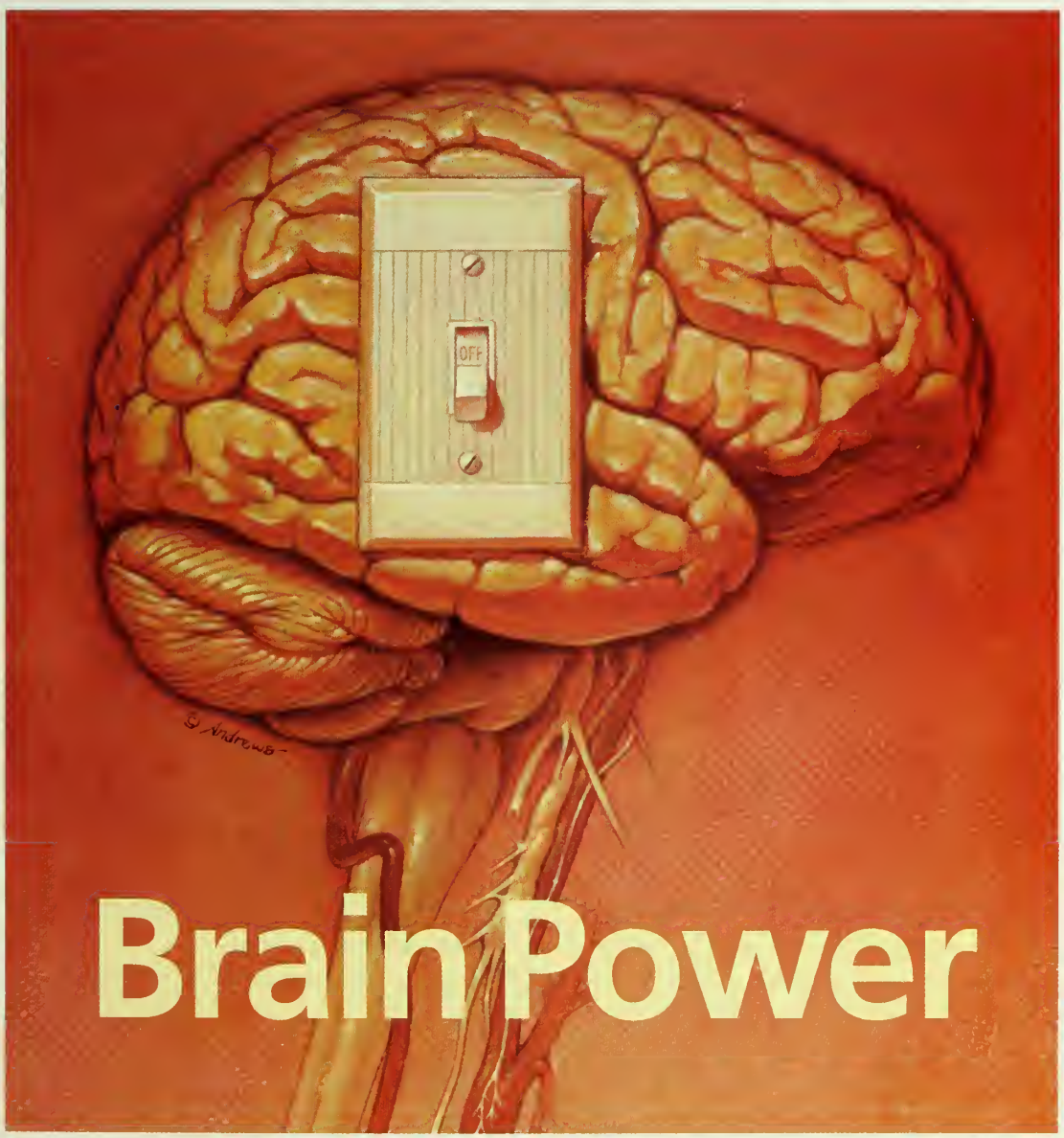
MEDICAL COLLEGE OF GEORGIA

TODAY

Volume 30, Number 2 Winter 2002



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TODAY

The human brain is the scientific world's great frontier. Scientists are discovering that not only the brain itself, but its intricate wiring and communications system, hold voluminous information about behavior, wellness, disease and the very essence of humanity.

The Medical College of Georgia is galvanizing every resource at its disposal to help unlock the secrets of the brain. The university recently established the MCG Neuroscience Center to consolidate the efforts on campus to better understand the nervous system, including the brain, and to treat or cure related diseases.

We invite you to read about the Neuroscience Center in this edition of *MCG Today*. The center is generating exciting laboratory findings and clinical initiatives that offer new hope for many debilitating diseases.

Read also about two members of the MCG community—a student and an alumna—whose lives changed when they watched loved ones suffer from one of the most devastating of all neurological conditions, Alzheimer's disease. They have each embarked on a journey to improve the lives of those with the disease. We think you will find their stories poignant and inspirational.

This magazine would not be complete without mention of the date that transformed all of our lives: September 11. Several members of the MCG community lost loved ones in the terrorist attacks. *MCG Today* shares their stories. We also share their grief and hope they find solace in the support of their extended family: the Medical College of Georgia family.

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Cover illustration by Bill Andrews.

MCG President: *Daniel W. Rahn, M.D.*
Interim Vice President for University Advancement: *Bruce Howerton*

Editor: *Christine Hurley Deriso*
Art Director: *Brent D. Burch*
Photographer: *Phil Jones*

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AT A GLANCE

Dr. Robert W. Comer

A Touch of Glass

Dr. Robert W. Comer's world glimmers, shimmers, sparkles and shines.

As a stained-glass artist, he has created a stunning collection of windows, wall-hangings, lamp shades and other pieces that splash jewel-toned beauty in every room of his home.

Dr. Comer, the Medical College of Georgia School of Dentistry's associate dean for patient services and chairman of the Department of Oral Diagnosis, was in dental school when he learned how to transform shards of glass into dazzling artwork. He found that the relaxing hobby complemented his easy-going personality and softened the rigors of dental school. "Stained glass doesn't require the precision of dentistry," he noted. "It's a nice way to use the eyes and hands without demanding perfection of myself."

Through the years, he has created about 125 works of stained-glass art, the vast majority of which he has given as gifts to family, friends and colleagues. His home, office and the dental school lobby are decorated with some of his pieces, which take from five to 50 hours to complete, depending on their intricacy. Sometimes he works from patterns; other times, he or his wife, Susan, create a sketch. He then cuts pieces of glass to fit, puzzle-like, into the sketch's outlines. Once the glass pieces have been cut to create the image on the sketch, he seals them with molten lead. The piece is then ready to be framed, mounted into a window or hung on a lamp.

He notes congenially that not all of the glass pieces survive long enough to be transformed into artwork. "My son dropped a hammer on this one," he said with a laugh, pointing out its shattered pieces. Such mishaps are less common now that his son and daughter are entering young adulthood, but he's always taken setbacks in stride, anyway. "This is just for fun," he said, brushing off the suggestion that he make a career of it when he retires from MCG. "Retirement means more time for hobbies, not second careers."

Advancing Diversity

Dr. Julius S. Scott Jr., who served as interim president of the Medical College of Georgia from January to June 2001, has been named the university's special assistant to the president for diversity initiatives.

"Dr. Scott has already made huge contributions to MCG and to Georgia," said MCG President Daniel W. Rahn. "His leadership will enhance our efforts in diversity considerably."

Dr. Scott will spearhead a diversity team composed of about 25 MCG faculty and staff members charged with creating and implementing initiatives to increase minority representation on campus. "It's very clear that we need to increase diversity, particularly in terms of students and faculty," said Dr. Scott, who is also past president of Paine College in Augusta.

The diversity team has identified six areas of concentration: faculty recruitment and development; student admissions and support; management development; salary equity; community relations; and purchasing and contracts. "We don't expect miracles, but we are dedicated to success," Dr. Scott said. "We will not be deterred."

The university's commitment to diversity, he said, has never been stronger. "I'm very optimistic and positively elated by the responses we're getting from faculty and staff about this issue," he said. "Dr. Rahn is very clear that this is his agenda, and everyone is anxious to come together and make progress."

Stoney Legacy

It's Elizabeth B. Brown's nature to dwell on the positive.

That's why her reminisces of student life at the Lamar School of Nursing are so liberally seasoned with smiles, laughs and warmth. She remembers, for instance, how the school's faculty met her at the train station when she came to Augusta to begin her education. She remembers how that same faculty drilled exacting standards into her head, demanding not only medical expertise but tender loving care that included a back rub for each patient. Once she graduated, she remembers assisting as Dr. Robert G. Ellison, founding chief of cardiothoracic surgery at MCG, performed groundbreaking surgery, then sitting with him at his patients' sides during their recovery.

Ms. Brown, a member of the Lamar School of Nursing Alumnae Association, shared her reminiscences as her alma mater took its place in history Oct. 4.

She and fellow alumnae gathered with members of the community to erect a historical marker in front of the Medical College of Georgia School of Nursing building at the corner of R.A. Dent Boulevard and Saint Sebastian Way. The marker cites the building's history: It opened in 1939 as the Stoney Nurses Home, the dormitory for the Lamar School of Nursing, established in 1897 as one of the first nursing schools for blacks in the South.

Unveiling of Stoney marker

Dr. J. Michael Ash, MCG senior vice president for administration and finance, Dr. Lois T. Ellison, MCG medical historian in residence, and the Lamar School of Nursing Alumnae Association spearheaded the effort to honor the building's legacy with a historical marker.

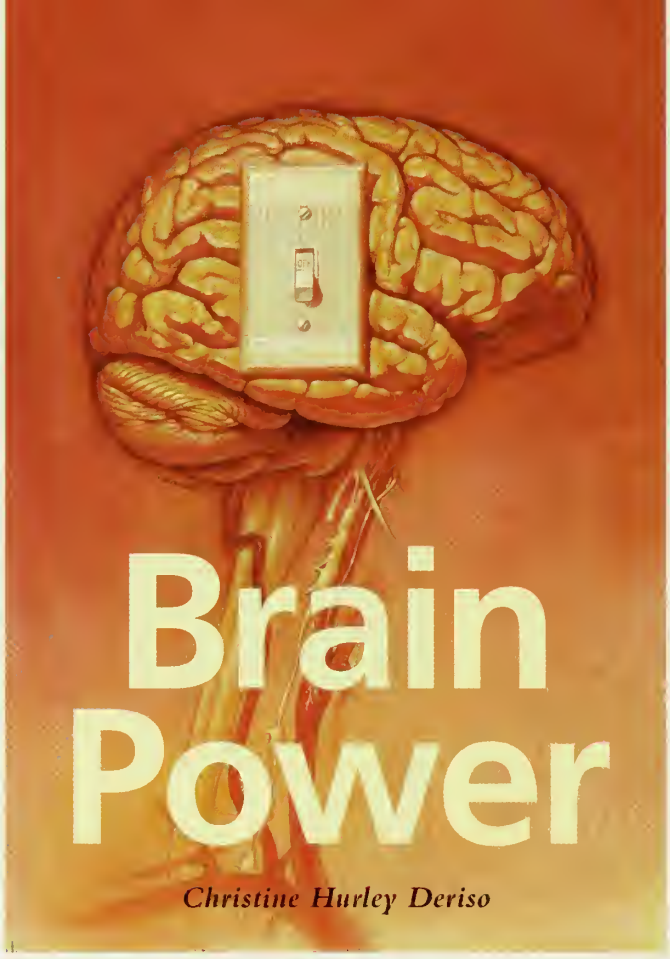
MCG President Daniel W. Rahn noted that Lamar alumnae never allowed the indignities of segregation to hinder their commitment to excellent patient care. "The Lamar School of Nursing reflects the roles of health care and education in unifying people kept separate by social bias," he said. "These nurses healed the illness of racial bias. It's wonderful that the racial barriers that were the norm in the past are, indeed, the past."

Homecoming, Inauguration Slated

Homecoming 2001, slated April 25–28, will coincide with the inauguration of MCG President Daniel W. Rahn April 26 at 2 p.m. at the Bell Auditorium.

Homecoming activities will include inaugural events; alumni activities in each school; reunion dinners for the School of Dentistry classes of 1977, 1982 and 1987; and School of Medicine classes of 1947, 1952, 1957, 1962, 1967, 1972, 1977, 1982, 1987, 1992 and 1997. All reunion dinners will be held April 27 at 6 p.m. at the Radisson Riverfront Hotel.

The entire schedule of events will be published in the spring edition of *MCG Today*. For more information, call the MCG Alumni Office at 1-800-869-1113 or visit www.mcg.edu/alumni.



Brain Power

Christine Hurley Deriso

It is no small irony that one of the most confounding scientific pursuits in the history of mankind is understanding the organ that created science in the first place: the human brain.

Humans have used their lumpy, seemingly unassuming gray matter to harness energy, traverse the solar system, conquer countless diseases and basically transform an existence of subsistence into one of comfort, calculation, structure and purpose. But even as man grew ever more adept at understanding and manipulating the world around him, the source of all that curiosity remained largely unexplored throughout the centuries.

No more. Today, the human brain is the scientific world's great frontier. Its folds and fissures, its gradations and grooves are proving to be more complex and remarkable than ever imagined. Scientists are discovering that not only the brain itself, but its intricate wiring and communications system, hold voluminous information about behavior, wellness, disease and the very essence of humanity.

The Medical College of Georgia is galvanizing every resource at its disposal to help unlock the secrets of the brain. The university recently established the MCG Neuroscience Center to consolidate the efforts on campus to better understand the nervous system, including the brain, and to treat or cure related diseases.

"If I had to show you the Neuroscience Center, we'd walk to every point on campus," said Bill Hamilton, administrative director. "We have educational, research and clinical components, and we think all are equally important. We are engaging in true translational research: from the lab to the bedside."

Never have the stakes been so high. Neurological disorders are among the most devastating of all diseases, and they are on the rise. About 10 percent of those age 65 and older have Alzheimer's disease, according to the Alzheimer's Association. That percentage skyrockets to 50 percent for those age 85 and older, and the association expects 22 million to be afflicted worldwide by 2025.

Other diseases, while less common, can be comparably debilitating, including Parkinson's disease (a disease relatively unheard of before the Industrial Age, prompting speculation that it is environmentally induced) and Sanfilippo's disease (a genetic metabolic disorder that impairs the nervous system and causes mental retardation). Still other maladies don't necessarily originate in the brain (spinal cord injury and some types of stroke, for instance) but can short-circuit the system or kill brain cells as effectively as a frontal assault.

Dr. Robert Yu

Dr. Jerry J. Buccafusco

The MCG Neuroscience Center is divided among disease lines, rather than departmental lines, to expedite new treatments and research, Mr. Hamilton said. That research is progressing at astonishing speed. Until recently, medical science held little hope for those with neurodegenerative diseases. Damaged brain cells were thought to be irreparable. But that was before scientists realized the potential of stem cells.

Stem cells, the body's master cells, have the ability to differentiate—to help create organs, muscles, bone, fat...virtually any body part. Nature calls stem cells into service during fetal development to produce a healthy organism (a dimpled, cooing baby, for instance, with 10 fingers and 10 toes, among other things). Scientists recently discovered that if they transplant undifferentiated stem cells into a diseased organism, such as an elderly rat with dementia, the cells will migrate to where they are needed to take over the job of damaged or dead cells.

Most Americans are all too familiar with the wrenching recent controversy of whether to harvest stem cells from human fetuses that die before birth. Last spring, the U.S. government enacted a policy to maintain existing human embryonic stem cell lines but to prohibit further harvesting. A death knell for stem cell research?

No. Although fetuses are the best source of stem cells, they aren't the only source.

"The blood from umbilical cords is rich in stem cells," said Dr. Robert Yu, the Neuroscience Center director for research and director of MCG's Institute of Molecular Medicine and Genetics. Umbilical cords supply nutrients to a fetus and are generally discarded when the baby is born. "We are developing a human umbilical cord stem cell bank with the help of the Georgia Research Alliance. Our goal is to develop those cells for transplantational purposes for neurodegenerative diseases."

The potential, he said, is overwhelming. "For many years, it was thought that nervous system damage could not be repaired. Now, we have the means to make repairs. But there are lots of questions to answer: how to control the proliferation of transplanted stem cells, whether the cells actually can correct the disease, whether there are side effects.... We are very anxious to help patients, but we don't want to create false hopes. We are moving cautiously to avoid creating new diseases. But animal trials show remarkable success."

The hopes are that transplanted stem cells could repair the spinal cord of a quadriplegic...or restore body control for a patient with Parkinson's disease...or preserve the memories, personality and cognitive functioning of someone with Alzheimer's disease. The list goes on and on.

And consider an equally amazing alternative: preventing genetic diseases in the first place. MCG scientists are learning more every day about how genes serve as a blueprint for certain diseases, even some, like Alzheimer's, that might not be symptomatic for years down the road. The Neuroscience Center is deconstructing such blueprints in hopes of intervening before the disease process begins. Dr. Shirley Poduslo, a neurogeneticist, joined the faculty in November to study the genetics of late-onset Alzheimer's disease and is establishing a DNA bank of

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patients with Alzheimer's disease and dementia.

"We are also doing embryonic studies to see how the brain is formed," Dr. Yu said, in the hopes of better understanding functions such as memory, communication and learning. Dr. Richard S. Cameron, an MCG cellular biologist, recently discovered with medical student Krishna G. Patel a new class of myosin proteins that seems to prod neurons to migrate to the right place during fetal development, then to ensure that the neurons are connected correctly. The research was published in the October edition of *The Journal of Neuroscience.*

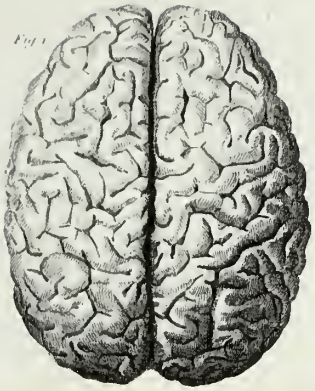
Complementing the efforts of the Neuroscience Center is the Alzheimer's Research Center, directed by Dr. Jerry J. Buccafusco, MCG professor of pharmacology/toxicology and psychiatry/health behavior. The center comprises about 15 MCG faculty in the Schools of Allied Health Sciences, Medicine and Nursing studying Alzheimer's and other neurodegenerative diseases. Like the MCG Neuroscience Center, the Alzheimer's Research Center reaches across campus lines to consolidate related efforts.

"It's a team approach to research and patient management," said Dr. Elizabeth Kenmer, a member of the center and chairwoman of the MCG Department of Medical Technology. "We're dealing with basic science, traditional medicine and a holistic approach to the patient and his environment."

Dr. Donna Fick, a member of the center and assistant professor of medicine and mental health/psychiatric nursing, lauds this approach to research and patient care. "The strength of MCG is having multiple disciplines interact," she said.

"Collaboration should make us more competitive for funding," Dr. Buccafusco said. "It also provides a platform for MCG researchers to optimize collaboration with clinicians."

The researchers will collaborate with University of Georgia gerontologists and the MCG Center



Areas of research in the Alzheimer's Research Center include:

memory-enhancing drugs

■

Alzheimer's-arresting compounds, including those that prevent brain plaques from binding

■

the potential link of hemoglobin levels to Alzheimer's disease

■

the potential link of estrogen levels to cognition

■

the potential link of toxins (including betacarbolyne, found in grilled foods) to Parkinson's disease

■

the potential link of medications such as sleep medications, anti-depressants and antipsychotic drugs to Alzheimer's patients' delirium

■

quality-of-life issues of Alzheimer's patients and their care givers.

for Senior Health, recruiting volunteers from the center's patient base for a research registry.

Dr. Kenimer will organize the registry with Dr. Tom Jackson, director of the Center for Senior Health. They will collect data about elderly patients' lifestyle, environment, socioeconomic level, medications and overall health to seek patterns associated with Alzheimer's disease. For instance, "I'm interested in seeing if routine blood work and other lab tests can help predict Alzheimer's disease," Dr. Kenimer said.

"We will likely follow the patients throughout their lives," said Dr. Buccafusco. "We hope our database will serve as a beacon to other investigators."

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Correction

Incorrect photographs illustrating teeth-bleaching results were inadvertently published in the fall edition of *Medical College of Georgia Today*. The correct illustration is below.

Before

After

No Time to Lose

Christine Hurley Deriso

Eugene Fowler retired as an electrician several years ago, but he's never stopped being a handyman.

"He's helping me remodel my bathroom and he just finished building an arbor in his back yard," said his daughter, Penny Fowler. Not bad for a 69-year-old man who had a stroke less than 18 months ago.

Penny, a nurse at the Department of Veterans Affairs Medical Center in Augusta, was home when she got a frantic call from her mother on Aug. 13, 2000. "She said Dad stood up, then fell backwards and couldn't speak. I live right across the road, and I tore off across the yard."

By the time Penny reached her father, still motionless on the floor, fear was etched in his face. "He kept trying to get up and he couldn't," Penny said. "I could tell he was weak on the left side because he couldn't squeeze my hand. The look in his eyes…I knew he was scared."

Penny was, too, but for those terrifying moments, she focused on being a nurse rather than a daughter. "While Mom was calling 911, I was taking his vital signs," she said. "I was pretty sure it was a stroke. When the ambulance got there, I said, 'Take him to MCG.'"

Penny was never as grateful for her medical training as she was that day. She knew about the significance of tissue plasminogen activator, or TPA—a clot-dissolving drug that can halt and even reverse damage if given within three hours of a stroke. The Medical College of Georgia, whose researchers a decade ago helped determine the drug's effectiveness in treating strokes caused by blood clots, has established a stroke team within its Neuroscience Center to ensure the drug's immediate and expert application when needed.

"TPA can stop a stroke dead in its tracks," said Carol Pardue, MCG neurology case manager and clinical nurse specialist.

"It's like a guided missile," said Dr. David Hess, MCG chairman of the Department of Neurology and medical director of the MCG Neuroscience Center. "It breaks up freshly formed clots in a vessel."

Some strokes result when a vessel leaks or bursts, in which case TPA is not an option. But 80 percent of strokes are ischemic, or caused by clots. In those cases, TPA can prevent disability and save lives. Ideally, the drug should be administered within three hours of a stroke, but it can also be directly injected into a vessel within six hours. "In select cases, TPA can be directly administered into the clot through a small catheter inserted through the blood vessel of the brain," said Dr. Jeffrey Stone, interventional neuroradiologist.

"Timing is everything," Dr Hess said. "Every minute counts. TPA isn't a miracle drug by any means; it can't be used in all cases and there are side effects: Up to 6 percent of the people who receive it have a hemorrhage. But patients who get it have a one-third greater chance [than those who don't] of returning to their normal lives."

Unfortunately, such a significant success rate doesn't necessarily ensure the drug's use when appropriate. "Nationally, only 2 percent of stroke patients receive TPA," said Dr. Hess.

Even hospitals that have TPA can't necessarily ensure its effective use. "It's a very easy drug to administer, but the decision-making involved is hard to teach," Dr. Hess said. "For instance, you have to have experts on hand who can interpret a CT scan and rule out a hemorrhage."

And even the best-prepared hospitals, such as MCG, are powerless if the stroke victim or his family opt to wait out the symptoms at home. Those symptoms—including numbness, tingling and/or paralysis on one side of the body, sudden vision problems and trouble speaking—necessitate an immediate trip to the emergency room. "This is not the time to lie down and see if the symptoms go away," said Ms. Pardue. "Our biggest problem is getting patients to come to the emergency room and be treated within three hours, and that three hours is from the onset of symptoms."

Penny understood the situation all too well. "The ambulance basically did a scoop-and-run," she said of the emergency medical technicians' response to her father's stroke. "We knew we didn't have any time to lose."

By the time Mr. Fowler arrived at the MCG emergency room, the stroke team was already assembled, ready to spring into action. "They administered the TPA and within 15 minutes, Dad was moving his left side," said Penny. "Within a few hours, he was talking again. He only spent 48 hours in the hospital. He had some short-term memory loss—he doesn't remember anything about the stroke—but other than that, he's his normal self. The only change is that I think he's more mellow; things don't bother him anymore."

Penny has worked in health care long enough to know that, historically, very few stroke patients have been so lucky. Stroke is the third-leading cause of death in the United States (second-highest in

MCG's stroke team includes (from left) speech/language pathologist Garlan Adams, neurology case manager Carol Pardue and physical therapist Jim O'Meara.

the world), the leading cause of adult disability and the second-highest cause of dementia, according to Dr. Hess. About 60 percent of MCG inpatient neurology admissions are stroke patients.

"It is the most common neurological problem in the Southeast," Dr. Hess said, citing risk factors such as high rates of hypertension, limited access to health care in rural areas, high-fat diets and high rates of sickle cell disease—the leading cause of strokes in children. "The numbers and severity are so striking in this area."

MCG is a referral hospital, treating patients from throughout the state and beyond. A helicopter is available for fast transport. In addition to TPA treatment for ischemic strokes, other treatments at MCG include a balloon-type device to dilate a vessel in spasm and an interventional radiology technique to treat aneurysms by blocking them with coils. Just as important as the immediate treatment is long-term management and patient education, Dr. Hess said. For instance, a daily dose of aspirin, which helps thin the blood, can effectively prevent a subsequent stroke.

Part of Ms. Pardue's job is to assess every aspect of stroke treatment at MCG, comparing factors such as protocols, outcomes, length of hospitalization and costs with other institutions. "She's the glue that holds everything together," Dr. Hess said. "She coordinates the whole team: neurologists, neurosurgeons, interventional radiologists, physical therapists, occupational therapists, speech therapists...everyone involved in stroke treatment."

The stroke team's effectiveness was recognized this fall by the University Health Consortium's Ischemic Clinical Stroke Benchmarking Project. The project assessed stroke treatment at 35 academic medical centers; MCG tied for overall best performer in stroke management.

That care doesn't end when patients leave the hospital. Some patients, such as Mr. Fowler, require minimal follow-up care, but those disabled by their strokes can require extensive follow-up treatment. Ms. Pardue helps match them with the appropriate resources. "I have a heart for disability," she said. "It just amazes me the things we take for granted every day: being able to scratch our nose when it itches, getting ourselves dressed for work.... Every day is a gift. Working with stroke patients helps me stay grateful."

She tries to relay her optimism to stroke patients, who can easily become overwhelmed with depression. "I see every phase of care," she said. "I know the end of the story. Most stroke patients regain some function. They do get better. I've seen people brought in on stretchers who walk out the front door a few days later. It's phenomenal what people can accomplish."

Even those with poorer outcomes often regain their joy of living, she noted. "They may not be a ballroom dancer anymore, but they can be at their daughter's wedding. You don't have to be perfect to have a meaningful life."

Yet she is eternally grateful that scientific advances give stroke patients better odds than she dreamed possible earlier in her career. "Help is available," she said. "But you have to get the help. Go to the emergency room if you have stroke symptoms. It's just as urgent as a heart attack."

Defining Difference

Toni Baker

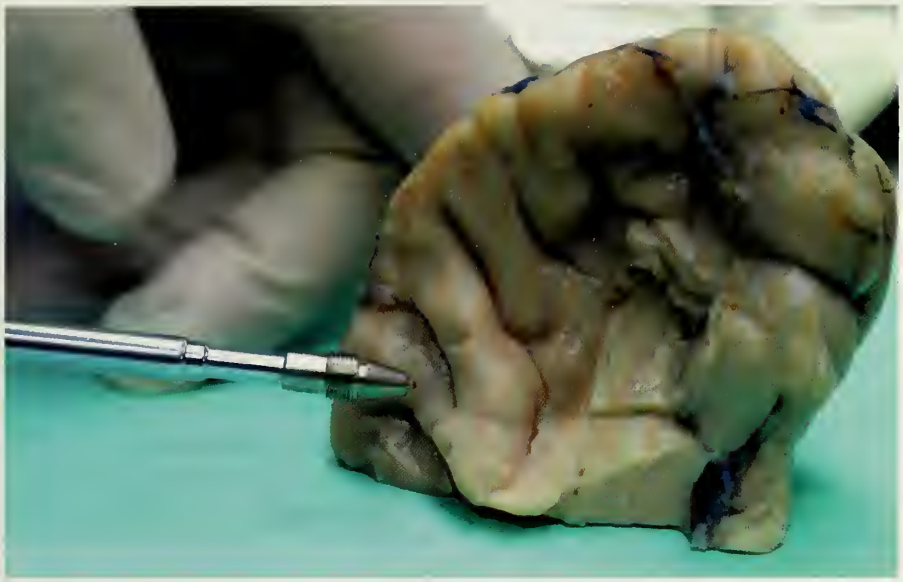
A defining difference between man and non-human primates has been found in the circuitry of brain cells involved in language, according to Medical College of Georgia researchers.

Their findings belie the notion that the primary difference between man, monkey and chimpanzee is the size of the brain, opening up a new area of study that may explain man's capacity for complex communication. The researchers also think this circuitry may be what goes awry in still unexplained conditions that affect language, such as schizophrenia, autism and even epilepsy.

"Language is something that makes us different from other species; now we have found a structural correlation," said Dr. Manuel F. Casanova, psychiatrist and neurologist at MCG and the Department of Veterans Affairs Medical Center in Augusta.

"We are trying to understand what makes the human brain different from non-human primates," said Dr. Daniel

Dr. Manuel F. Casanova



The human brain's planum temporale has asymmetrical cellular organization, unlike other species' brains.

Buxhoeveden, physical anthropologist at MCG. "We also are trying to understand the pathology of diseases of the brain that are not understandable by classical methods. We think the difference is going to be in the way the brain is organized."

To study that organization, they have completed detailed computer analyses of a basic, functional unit of the human and non-human brain known as a minicolumn, a group of 80 to 100 cells and the wiring that connects them. Millions of these minicolumns are found throughout the brain; their studies focused on the minicolumns found in an area of the brain involved in language called the planum temporale. There, they found distinct, microscopic differences in the minicolumns of humans and non-human primates. They also found differences in the minicolumns in the right and left side of the brain in humans that weren't present in non-humans; previous studies found distinctive lateralization—left-right differences—in humans and chimps.

"These minicolumns are different in their structure in the human brain and also different in that they are larger on the left side than on the right side of the brain," Dr. Buxhoeveden said. "We didn't find this in the chimpanzee or the monkey." In most humans, language function is housed on the left side of the brain, which would make the left-right differences all the more pertinent, Dr. Casanova said.

These differences may explain man's capacity for the subtleties of communication—such as understanding concepts and formulating and expressing responses—compared to non-human primates' more fundamental communication system.

"Other species can communicate, but they really don't have a language," Dr. Casanova said. "[For instance] bumblebees can't compare the pollen catch of that day to a month ago or what they expect to find a day or a year from now. So where should we look for something that makes us different from other species? Within the language regions of the brain."

Previous studies have found that cells in the human and non-human primate brain are essentially identical and that the brains look—from the outside at least—very similar other than in size. For example, the chimpanzee is man's closest evolutionary relative; the two have about 99 percent of their DNA in common, but the human brain is about three and one-half times larger. "The question has been, 'What else changed besides size?'" Dr. Casanova said.

After examining brain tissue from humans, rhesus monkeys and chimpanzees obtained from the Yakovlev-Haleem Brain Collection at the Armed Forces Institute of Pathology in Washington, D.C., they believe that how brain cells are organized to work together is a key difference.

"We found evidence that the brain is organized differently in humans in this area of the brain, even though the outside looks the same," Dr. Buxhoeveden. "This [indicates] that the brain is wired differently in humans in the language area than in the chimpanzee or the monkey."

"Now we will be looking at this to describe pathologies that are subtle, that don't have classical symptoms that you see in diseases such as Alzheimer's, where there are obvious, major things wrong with brain tissue," he said. "In diseases such as schizophrenia and autism, those obvious symptoms aren't there. But we believe that you will find them in the most subtle wiring of the brain."

The researchers are expanding their studies by including other species, including non-primates such as dolphins, mammals with large, highly developed brains.

Their findings are published in the August issue of the *American Journal of Physical Anthropology* and scheduled for publication in *Brain Behavior and Evolution*. Support for the research was provided by the Maryland-based Stanley Foundation, a major supporter of psychiatric research worldwide; Dr. Casanova is a Stanley Scholar, which means the foundation also provides ongoing support for his mentoring of future psychiatrists.

Other co-authors on the studies include Andrew E. Switala, computer programmer and mathematician; and Dr. Emil Roy, linguistics and computer applications expert.

Mystery Compounds

Toni Baker

Defining the function of common fat-and-sugar compounds is the goal of a Medical College of Georgia researcher who believes they play an uncommonly important role in brain development and communication.

"Glycosphingolipids, especially a type called gangliosides, are in almost every cell in the central nervous system, yet what they do is still a mystery," said Dr. Sean S. Liour, postdoctoral fellow in the MCG Institute of Molecular Medicine and Genetics.

Dr. Liour has found that these mysterious compounds —expressed during normal brain development and in the adult brain as well— enable neurons and their supportive, plentiful glial cells to reach out to each other through the formation of finger-like extensions called axons. "Neurons have to differentiate and send out axons for proper synapse (communication) formation," he said. "We think glycosphingolipids (or glycolipids) are involved in neuronal development because of a very simple phenomenon: in a lot of different species, the regulation of their expression is very consistent. From mice to cows to humans, certain gangliosides are expressed during certain times of normal development. So it does imply they have the same function during development."

But the mystery compounds don't go away. And again across species, their pattern of expression in the adult brain is similar. "Even though the brains are different, glycolipids seem to have a similar role," Dr. Liour said.

As a graduate student at the Medical College of Virginia, he studied multipotential mouse embryonic stem cells in a culture dish, documenting their differentiation—some into common glial cells—their subsequent growth of axons and other extensions called dendrites as well as the corresponding levels of glycolipids throughout development.

These studies won him the 2001 American Society for Neurochemistry's Marion Kees Memorial Award for a junior scientist conducting outstanding research during graduate training.

Now as a postdoctoral fellow at MCG, he is taking those cells that have grown axons and putting them back into developing brains to determine if, once they are again in context, they will form proper synapses and integrate into that brain.

In a separate but related project, Dr. Liour is using growth factor to direct multipotential embryonic mouse stem cells to become supportive glial cells, then transplanting those cells into a mouse model of Sanfilippo syndrome, a rare enzymatic disorder in children that results in progressive mental retardation and eventual death.

Those with the disease are missing an enzyme that causes the complete breakdown of a sugar involved in connective tissue formation; instead the byproduct, heparan sulphate, collects in the brain, disrupting normal development and function. The disease is incurable and largely untreatable. Earliest symptoms often surface in preschool when children start falling behind their peers developmentally; eventually, they lose the ability to communicate and understand.

"We are trying to put back glial cells, which are known to maintain neuronal function," he said, hoping that the transplanted cells will provide the missing enzyme and so disrupt the deadly, destructive cycle of Sanfilippo.

He is using similar techniques to generate neural tissues from stem cells derived from human umbilical cord blood as well as bone marrow in the hopes of one day improving treatment for patients with other types of neurodegenerative diseases that also have a metabolic component, such as Hurler's syndrome, which causes severe malformations of bones and cartilage.

Dr. Liour came to MCG from the Medical College of Virginia in 2000 with his graduate school advisor, Dr. Robert Yu, director of the Institute of Molecular Medicine and Genetics, who he calls "one of the giants in glycosphingolipid research."

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ACCELERATE YOUR LIFE

SAGE Advice

Christine Hurley Deriso

When Kylie Gertge reminisces about her grandfather, she tries to concentrate on the good times.

"We were really close," she says. "We used to take long walks and spend a lot of time together."

She tries not to think about the last year of his life. "We didn't know what it was at the time, but he had Alzheimer's disease," she said of the illness that robbed him of his memories—and robbed Kylie of her grandfather. "The family finally had to place him in a nursing home, and Mom ended up shuttling him from one to another because of the quality of care was so poor. It was just awful."

The family visited him often, but Kylie's mother could never bear to turn to wave as they were leaving. She could only forge ahead, her vision blurred by tears. But Kylie remembers waving goodbye. "As I turned around to wave, I saw his hands against the glass and tears streaming down his face."

He died shortly thereafter. Kylie was 10.

The image of her crying grandfather, separated from his loved ones by a pane of glass and by the ravages of a disease they were helpless to battle, is as fresh in Kylie's mind today as it was when she walked away from him two decades ago. But she hasn't wallowed in despair. She has devoted her life to building a bridge to all elderly people whose illness and infirmity have stranded them in loneliness and isolation.

"What that experience did was make me know I was going to do something to change the lives of the elderly," said Kylie. She earned her bachelor's degree in occupational therapy from the Medical College of Georgia in 1990, then a master's degree in gerontology and long-term care management from Naropa University in Boulder, Colo.

"I worked for about five years in nursing homes as an occupational therapist, and the changes I wanted to see were still not happening," she said. "I saw that [elderly] patients tended to plateau in therapy, then gradually decline. Even those in rehab usually were only there a few months a couple of times a week."

For her master's thesis, Kylie developed a model for a functional fitness program for residents of assisted-living centers. Rather than focusing on short-term progress after a debilitating illness or injury, she created a program stressing regular exercise that enhances strength, balance and stamina. The program can be used to expedite recovery or, ideally, to help prevent a problem in the first place. "I knew this was what I'd been looking for all these years."

Phil Booth, Kylie Gertge and Marie West flash victory smiles after completing Denver's 2000 Furry Scurry

While developing the program, Kylie met Phil Booth, a New Zealand native who was developing a fitness program for an assisted-living community. With their shared enthusiasm for exercise, wellness and quality of life, they combined forces, forming a company, Senior Wellness Consultants, Inc.

"We had no capital and operated on a shoestring, but we really believed in what we were doing," said Kylie, whose business was incorporated three years ago. "I like learning and being challenged. This has been so exciting."

The business also turned out to have an unanticipated perk: undeniable chemistry between the owners. "Phil and I married last September," Kylie said. "We deciding working together that we had quite a fondness for one another."

Today, she, her husband and their staff, all certified by the Senior Fitness Association, offer occupational therapy services for elderly residents of private homes, skilled nursing homes, assisted living facilities and independent living facilities. They work one on one with the elderly and care-givers to teach their program called Seniors Aging Gracefully with Exercise, or SAGE. "Our goal is to promote independence through functional fitness," Kylie said. "We use portable equipment that we call our bag of tricks, plus the fitness center equipment in the retirement communities with which we have contracts," Kylie said. "But often we use whatever the client has around the house." For instance, they might teach exercises and techniques using gardening equipment or brooms to help enhance strength and flexibility. They also teach tai chi to improve balance. The sessions generally last 45 minutes and are as frequent as daily.

Each program is customized to the needs, limitations and preferences of the individual. Those recovering from an injury such as a broken hip, or an illness such as a stroke, learn exercises and techniques designed to help them recover lost function and optimize their abilities. "We assess their strength, balance, lifestyle and other factors, then develop a plan for them," Kylie said.

Their clients' progress, she said, is often nothing short of astounding. "One man had been in a wheelchair for years after suffering an aneurysm," Kylie said. "But after working with him long term, he's walking again. It's so fulfilling to see something like that happen, and we know it's possible. Rehab is often streamlined because of cost constraints, but if you give people the time and attention they need, their progress will amaze you."

As important as the exercises and techniques are, Kylie's top priority is treating clients with kindness, empathy and respect. "We spend an inordinate amount of time with our clients," she said. "We assess their nutrition, their medications, changes in behavior, physical changes…but mostly, we just get to know them. We have time to build a relationship, talk to people about their lives and just be present with them. That's the biggest motivating factor for our clients."

For instance, Kylie's visits are a highlight of the week for Pamela Walker and her 80-year-old husband, who has Alzheimer's disease. "When she visits, my husband's eyes just light up," Mrs. Walker said. "She helps him with his balance, she writes out his instructions and she's so patient with him. She caters to his special needs. She has such a kind, tender heart…she's just a joy."

Kylie and her husband hope to attract grant funding so they can offer their services to indigent elderly people. They also are documenting their results to help "prove to insurance companies and the government that these programs work so that they can be available to everybody who needs them," Kylie said. "Ultimately, it is cost-effective to invest in wellness and prevention on the front end."

Despite her lofty goals, "I don't have a desire for a big business," Kylie said. "I like being small. We are so close to our clients. We know intimate details about them, their lives, their needs, their expectations. It's not just about exercise."

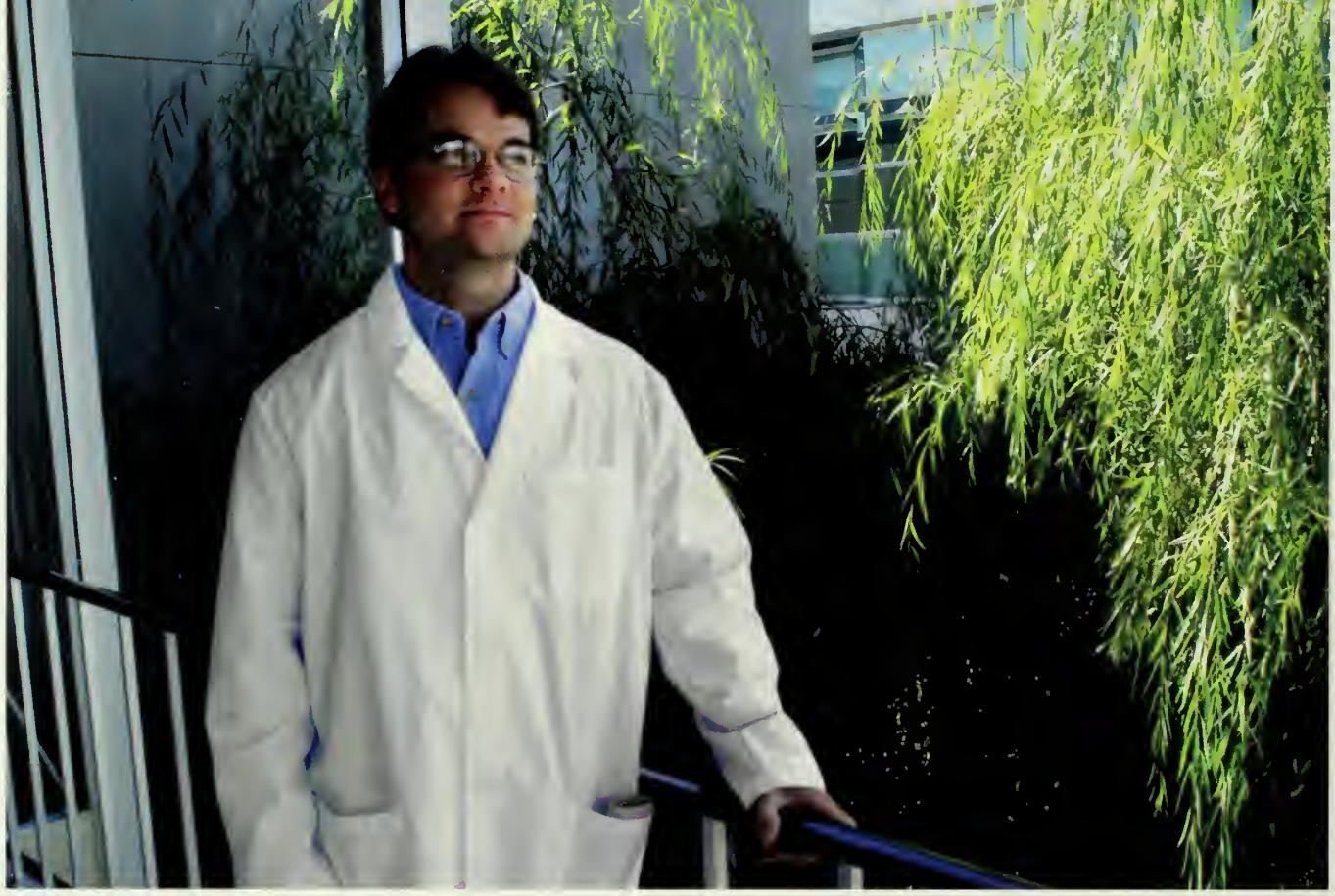
Such personal attention, she acknowledges, has its down side. Her clients become friends, and she grieves when they die. "It's always painful because I do get very attached to them," she said. "But what is very depressing is seeing people die in pain and discomfort. In this work, I see patients who are vivacious and reasonably active. There's a quality of life, even up to the point that they die."

One of her clients, Marie West, for instance, lived a vital and energetic life until shortly before her death last fall at age 95. Kylie and Phil's sessions with her invariably included taking long walks, listening to stories accumulated over almost a century of living. They capitalized on her love of walking by encouraging her to set new physical goals. In the last four years of her life, Marie competed annually with Kylie and Phil in Denver's Furry Scurry, a two-mile race. "She was thrilled each year to have completed that race and to have been one of the oldest participants," Kylie said.

Marie's daughter, Ann Stewart, will never forget how much Kylie and Phil enriched the last years of her mother's life. "Kylie is so genuinely interested in people and their stories," Ann said. "She has a way of drawing people out. They want to do their best for her. My mom could hardly wait for Kylie and Phil to come see her. It was so neat to sit back and watch that relationship grow."

Ann grew close to them as well. In fact, they gathered in Colorado's Estes Park to scatter Marie's ashes after her death. "At Mom's memorial service, someone said, 'Well, I guess you and Kylie won't be seeing each other much anymore,'" Ann said. "We just smile at each other and said, 'Of course we will.' She has become such a dear friend over the years."

Kylie said clients like Marie continually inspire her to redouble her efforts—both on their behalf and in the way she lives her own life. "As I grow old, I want to be active, stay fit and healthy and stay away from medications as much as possible," she said. "I see too many people being over-medicated and having their adverse effects go undetected. Each and every one of us have the potential to be active, vital and independent throughout our entire lives. I want to help people fulfill that potential."



Like Father, Like Son

Christine Hurley Deriso

In the end, only their eyes connected.

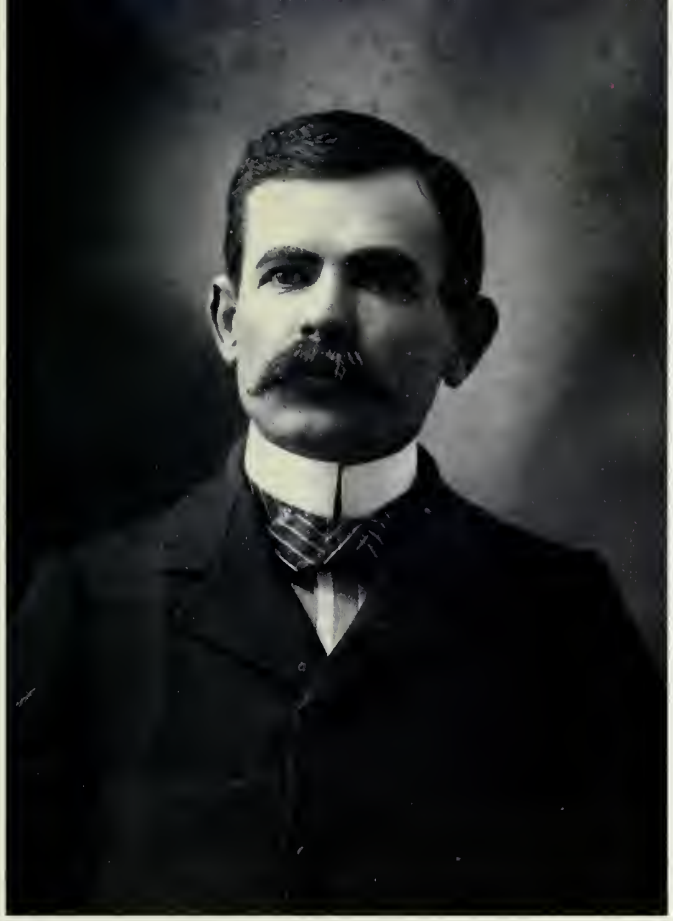
By the time Kevin Howard's father died of early-onset Alzheimer's disease at age 59 in August 2000, the once-indefatigable pediatrician could no longer speak or function. But "I'm convinced he knew me to the end," says Kevin, a freshman medical student at the Medical College of Georgia. "I could see it in his eyes."

Kevin treasures that connection—the wispy-thin thread that linked father and son as the chasm of dementia forced them farther from each other's grasp. Even as the disease was robbing Dr. Matthew T. Howard of his very essence, his son was finding himself in his father's eyes.

Kevin comes from a long line of healers: His father, grandfather, great-great-grandfather and great-uncle all graduated from the MCG School of Medicine. After enrolling at the University of Georgia, Kevin toyed with the idea of following in their footsteps. But his dad was encountering the nascent hassles of managed care, and Kevin opted for business school instead. After graduating from UGA in 1990, he worked in risk management for several years, then signed on as a salesman for Control Plus, an automation controls company in Augusta.

"It was amazing how quickly he picked up on the technical nature of our products," says Control Plus owner Doug Clark. "He's a very bright young man and did a wonderful job for us. He was well-liked by his customers, very diligent and detail-oriented."

Kevin enjoyed the work.



Dr. Charles Nelson Howard Sr. (School of Medicine class of 1867), Kevin's great-great-grandfather

True, he wasn't curing diseases or easing pain like so many of the Howards who had come before, but he was making his own mark in his own way. He had every intention of settling into the business world and forging a decades-long career.

Then his father got sick.

At first, the symptoms were too subtle to notice. "Dad was always into his work. He loved what he did and he was so busy; he worked at three different clinics, and he was a little absent-minded by nature," Kevin says.

So when Dr. Howard became confused about which clinic he was supposed to report to, his family didn't so much as raise an eyebrow. That was just Dad; and besides, they were too busy with their own schedules to notice his occasional peccadilloes. Kevin was cultivating new clients, Kevin's sister was starting her own family in Charleston, S.C., and their mom was helping care for Dr. Howard's mother, who herself had Alzheimer's disease.

"We had been dealing with my grandmother's situation for about five years," Kevin says. "We were familiar with Alzheimer's disease, but we didn't make the connection with Dad because he was so young. It wasn't until his confusion became commonplace—like forgetting to shut the refrigerator door or the car door—that we saw the big picture."

Kevin and his mom talked to Dr. Howard's friends and associates, who conceded that they, too, were noticing increasingly strange behavior. His nurses, for instance, noted that he would ask a patient the same question several times. They weren't the only ones noticing. Dr. Howard knew all too well what was likely going on.

"He was very afraid because of the fact that his mother had the disease," Kevin says. "He knew more than he wanted to know."

For his family's and patients' sake, Dr. Howard submitted to a battery of neurological tests. One by one, other potential causes of his confusion and forgetfulness were eliminated. Finally, there was only one likely diagnosis: Alzheimer's disease.

Dr. Howard was diagnosed in November 1996. He immediately terminated his practice; he was much too responsible and concerned about his patients to trust himself with their care, even though he was still highly functional at the time.

"It was very difficult for him to walk away from his practice," Kevin says. "He went from being a very busy pediatrician to having nothing to do. It was very challenging for Mom and me to find activities to fill his time."

He played golf and reluctantly agreed to try the Jud C. Hickey Adult Day Center for Alzheimer's Disease, fund-

Dr. Matthew Howard (School of Medicine class of 1967), Kevin's father

Kevin as a toddler with his father and grandfather, Dr. Charles K. Howard (School of Medicine class of 1932): Three generations of healers

ed by the Alzheimer's Association and named in honor of MCG's founding School of Dentistry dean who himself contracted the disease after retiring. "But he didn't feel he fit in," Kevin says.

Kevin and his mom had an idea: Rather than attending the day center as a patient, what if Dr. Howard volunteered his time there, helping others with the disease? Bingo. "He became much more receptive to going when he felt like he was helping the others," Kevin says. "Once he got used to the environment, he really began enjoying it. And it was a much-needed outlet for my mother and me."

As Kevin adapted to his new schedule of swapping off caretaking duties with his mother, he was also rethinking his life's plan. His dad was still lucid enough to give him guidance as he announced a career change: Kevin wanted to go to medical school.

He enrolled at Augusta State University to take the sciences courses he would need to apply to MCG. He knew there were no guarantees. He might not get into medical school. If he got in, he might not graduate. If he graduated, he might not get a residency. The list of "what ifs" seemed endless. But Kevin was undaunted. Maybe one day, he would be able to help people who were suffering like his father.

With his dad's encouragement, he proceeded with his plan. Kevin managed to ace his science courses, even amid the heartache of watching his father quickly deteriorate. "His ability to speak was affected very early on," Kevin recalls. "You could see the frustration in his eyes. He was trapped in his own body, to a large degree."

Yet occasionally, very occasionally, a seeming miracle would occur. "There were intermittent times when he was lucid again," Kevin says. "For that moment, I had him back. It was the greatest thing in the world. I would use those moments to tell him how I felt about him and how much I loved and appreciated him."

But those moments grew fewer and farther between. "They call Alzheimer's disease the long goodbye, and it really is," Kevin says. "I felt we lost a little bit of him with each day that passed."

Yet his father still had lessons to pass along. Kevin was amazed at his grace amid the indignities of his disease. "He taught me patience," Kevin says. "He taught me to set aside my fears and follow my heart."

Kevin and his mother were at Dr. Howard's side when he died in the hospital.

Their grief is still raw. "He didn't deserve this...." Kevin says quietly.

But he concentrates on the good times. He thinks of his father as the healthy, vibrant person he was for the vast majority of his life. He thinks of his courage and altruism in volunteering for the Vietnam War so he could treat injured soldiers. He thinks of the man who loved kids so much that at restaurants and parties, he was always looking down, seeking children's gazes and sharing a smile. He thinks of the dad who took him backpacking and fishing at Twin Lakes in Alaska's Lake Clark National Park, where his ashes are now scattered.

"He was a man of compassion and great patience," Kevin says. "I don't ever remember him speaking negatively about anyone. I never saw a time that he wasn't there for someone who needed help. He was wonderful father, role model and friend."

Kevin is honoring his memory by excelling in medical school. He studies voraciously and organizes class fund-raisers, including for the Alzheimer's Association. He started an endowment for the organization in his father's name.*

"He's quite a dynamic and energetic person," says Dr. Mason Thompson, associate dean for admissions and student affairs in the School of Medicine. "He had to make major life changes and assume considerable risks to go back to school, but he faced every challenge and has been very successful. He's a very mature and committed student."

His father would expect no less. "I'm very optimistic and enthusiastic about the direction I'm heading in," Kevin says. "I know my father would want me to move forward."

* To make a donation to the Matthew T. Howard Endowment, contact the Augusta chapter of the Alzheimer's Association, (706) 731-9060.

Estate-Planning: Beneficial at Every Income Level

Perhaps you would love to make a major gift to the Medical College of Georgia but just can't afford to give up large pieces of your assets. You and your family depend on these assets for current and future needs.

Good news: You can leave a lasting legacy at the Medical College of Georgia while ensuring your family's financial well-being. This process is known as planned giving. A planned gift can enable you to:

- Donate assets, yet defer the time MCG receives them
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- Avoid capital gains tax
- Ensure a lifetime income for you and your beneficiaries—often more than you currently receive
- Reduce or eliminate estate and generation-skipping taxes
- Make a larger gift than you ever thought possible.

For the year 2002, the federal government exempts estates with a gross value of $1 million or less from estate taxes. This number rises to $1.5 million in 2004, $2 million in 2006 and $3.5 million in 2009. The tax is repealed in 2010 for one year. After that year, the estate tax returns to 2001 levels.

Maybe you think information about million-dollar or multimillion-dollar estates is irrelevant to your financial situation. But your gross estate is comprised of your home, cars, retirement plans—everything you own. Your total estate can easily add up to be subjected to federal estate taxes that can climb as high as 50 percent. Individual retirement accounts also are taxed in addition to the estate tax. Without an estate plan, the federal government may well take a large percentage of your assets and decide how best to spend it.

Even if your estate falls into the repeal year of 2010, estate-planning is still essential in allowing you to determine your goals and to achieve them. Otherwise, a state court will decide who will benefit from your life's work. Please visit a financial professional specializing in estate-planning to ensure that the assets you've worked so hard to earn can help you accomplish your life's dreams, today and tomorrow.

The Medical College of Georgia Planned Giving Office is experienced in helping people create customized strategies to meet specific needs. Call me, Troy Breitmann, at 1-800-869-1113 for more information.*

* The information in this publication is not intended as legal advice. For legal advice, please consult an attorney. Tax laws are subject to change, which may affect statements in this publication.

Here are examples of planned-giving strategies for common financial goals:

If your goal is to:	Then you can:	Your benefits are:
Make a quick, easy gift	Simply write a check to the MCG Foundation now	An income tax deduction and an immediate impact for us
Avoid tax on capital gains	Contribute long-term appreciated stock or other securities	A charitable deduction plus no capital gains tax
Share your enjoyment of a collection or personal item	Donate personal property related to the functions of MCG	A charitable deduction based on the fair market value of the property
Make a revocable gift during your lifetime	Name the MCG Foundation beneficiary of assets in a living trust	Full control of the trust terms for your lifetime

If your goal is to:	Then you can:	Your benefits are:
Defer a gift until after your lifetime	Put a bequest in your will (for cash, specific property or the residue of the estate)	Fully exemption of your estate from estate tax
Make a large gift with little cost to yourself	Contribute a life insurance policy you no longer need	Current and possible future income tax deductions
Avoid the double taxation of IRAs and other benefit plans	Name the MCG Foundation beneficiary of the remainder assets after your lifetime	Reduced tax liability for other assests left to your family
Reduce gift and estate taxes on assets you pass to heirs	Create a Charitable Lead Trust that pays income to us for a specific term of years before passing assets to heirs	The estate tax benefits of a gift, but your family keeps the assets.

If your goal is to:	Then you can:	Your benefits are:
Avoid capital gains tax on the sale of real estate	Donate the property to the MCG Foundation or sell it to us at a bargain price	An income tax deduction, plus reduction or elimination of capital gains tax
Donate your personal residence or farm but retain use of it	Create a charitable gift of future interest, called a Retained Life Estate	Tax advantages plus continued use of the property
Secure a fixed income while avoiding market risk	Create a Charitable Remainder Annuity Trust or purchase a Charitable Gift Annuity	Current tax benefits and often a boosted rate of return on your investments
Create a hedge against inflation over the long term	Create a Charitable Remainder Unitrust	Available income for life based on investment value, plus current tax benefits

Terrorism Hits Home for MCG Community

Christine Hurley Deriso

The Medical College of Georgia community collectively grieved as the nation reeled from the carnage of the Sept. 11 terrorist attacks. But for some, the pain was personal...and immeasurably deep.

For instance, Sara Guest, who earned bachelor's and master's degrees in nursing from MCG in 1995 and 2000, respectively, lost a sister, brother-in-law and two nieces in one of the attacks. Her sister, Leslie Whittington, was aboard American Airlines Flight 77 , which circled the sky over Virginia before plowing into the Pentagon. Ms. Whittington, a Georgetown University public policy professor, was en route to Australia with her husband, Charles S. Falkenberg, and their daughters, Zoe, 8, and Dana, 3. They were headed for a two-month family adventure.

Ms. Guest is heartbroken but stoic. "We lost a brother 10 years ago, so I know it's possible to get through this," she said.

Her mother received a phone call from the family immediately before they boarded the plane, oblivious to the danger that awaited them. The little girls got on the phone and burbled with excitement about their upcoming adventure.

That was the last contact they had. Ms. Guest finds a bit of consolation in the fact that her sister seemingly was spared a final order of the hijackers to other passengers: to call their families and tell them they were about to die.

Ms. Guest also is consoled by the fact that her loved ones are mourned by millions. "It's like everyone's affected by it," she said. "It's not just your own pain."

The tentacles of the tragedy also invaded the life of Dr. Dave Hill in the Department of Cellular Biology and Anatomy. Dr. Hill's cousin, Bill Kelly, was

MCG's Disaster Medical Assistant Team rallied to help treat victims of the Sept. 11 terrorist attacks, traveling to areas in need. Dr. Larry Mellick, chairman of the Department of Emergency Medicine, created the team when he joined the faculty in 1996. Pictured from left to right are (front) Barbara Cope, Dr. Larry Mellick and Rosalie Gearman and (back) Dr. Hartmut Gross, Mary Bannan, Dr. Phillip Coule, Regina Medeiros, Beth Nesmith and Robert Baggott. Not pictured: James Gill, Shawn Gunder, Dr. Michael Hawkins and Dr. Sanford Hawkins. For more information about the team, visit www.dmatga4.org.

attending a meeting on the 100th floor of the first tower of the World Trade Center when a plane crashed into it. "He had e-mailed his family twice saying he was about to evacuate the building, but that was the last contact with him," said Dr. Hill.

MCG took several steps to help shepherd the community through its grief, including hosting a remembrance ceremony Sept. 14 and offering counseling services to those in need through the MCG Employee and Faculty Assistance Program. MCG President Daniel W. Rahn lauded the community's commitment to its tasks in the face of such daunting distractions. "While everyone was affected, we stayed focused on the institution's priorities," he said.

MCG's facilities plan includes a 36,000-square-foot student Wellness Center. The university broke ground on the facility Oct. 11 and expects it to be operational by 2003.

Facilities Plan Promises Campus Transformation

Toni Baker

The Medical College of Georgia is focusing its vision on a beautiful yet functional transformation of campus over the next decade.

"We have a unique opportunity with new leadership and with a new strategic plan to tie those together in some physical form," Dr. J. Michael Ash, senior vice president for administration and finance.

Atlanta-based Cooper Carry, a firm of master planners and architects, is capturing the vision on paper, roughly sketching the lines and connections that will enable the transformation. Cooper Carry master planners, led by Rich Flierl, are developing a village concept that consolidates living, working, learning and playing on campus. The plan also reaches into the community and enables the community to reach back.

"We are trying to make it a cohesive college campus," said Jon Bangs, MCG's chief architect. The goal is a 10-year physical master plan that is essentially a comprehensive road map to the future, said Mark Novak, master planner and architect with Cooper Carry.

Cooper Carry, whose clients range from hoteliers to retailers to universities, has been hired by the University System of Georgia Board of Regents to develop this master plan. In May the company initiated a series of meetings and committees involving about 150 people, including department and campus leaders and community groups such as the Augusta-Richmond County government, Augusta Neighborhood Improvement Corporation, Historic Augusta, Inc., Augusta Tomorrow, the Georgia Medical Center Authority, Paine College and Augusta State University.

They are working closely with other campus communities as well, especially MCG Health, Inc., to map out a functional, attractive facilities plan. "The collaboration with MCG Health, Inc., has been extensive," Mr. Novak said.

Such external and internal collaboration is critical to a successful long-range plan, the master planners say. "People have a tendency to plan individual projects without regard to what else is going on," said Mark Schnell, urban designer with Cooper Carry. "The success comes when people have the *aha* bigger vision" that can turn seemingly pie-in-the-sky plans into brick-and-mortar realities, he said. "It's about saying, 'Look at what can happen if you start knocking down those goals one by one.'"

In fact, the master plan is critical to making the projects a reality because major requests for buildings and renovations must be a part of that plan to be considered by the regents for approval, Mr. Bangs said. The final plan must be approved first by a regents committee and finally by the full board, Mr. Bangs said. MCG President Daniel W. Rahn likely will present the plan to the full board early next year.

Participants in this master planning process are excited about its potential and confident about its reality. In fact, although the plan is still a work in progress, it is already impacting development, including the design and placement of the new 190,000-square-foot Health Sciences Building—the future home of the Schools of Allied Health Sciences and Nursing—as a gateway building onto campus from St. Sebastian Way. The building is first on the regents' capital priority list and likely will be funded during the next general assembly session, Dr. Ash said.

Class Notes

School of Allied Health Sciences

Margaret L. Conrad (dental hygiene, '86), North Augusta, S.C., received the 2000-01 Volunteer of the Year Award from the Georgia Dental Hygienist Association. She and her husband, Michael P. Conrad, have five children and one grandson.

School of Dentistry

Dr. Arthur H. Jeske (D.M.D., '78 and Ph.D., '75), a professor in the Department of Basic Sciences at the University of Texas Dental Branch, has been elected to the Council on Scientific Affairs of the American Dental Association and to the Dentistry Expert Committee of the United States Pharmacopeia.

School of Medicine

Dr. William H. Houston ('47), an ophthalmologist in Jacksonville, Fla., has been married for 57 years to Lynelle Hooks Houston of Swainsboro, Ga. He is certified by the American Board of Anesthesiology and the American Board of Ophthalmology.

Dr. Charles L. Rice ('68), vice chancellor for health affairs and professor of surgery and physiology/biophysics at the University of Illinois at Chicago, has been named chairman-elect of the Accrediting Council for Graduate Medical Education, the body that oversees the accreditation of all U.S. residency programs.

Dr. David C. Jones ('83) has opened a free-standing independent cancer center in San Marcos, Texas. The Center for Cancer Care is a rousing success, thanks to his top-quality medical training at MCG, and his business degree from the University of Georgia didn't hurt. Dr. Jones is married to his college sweetheart, Jane Seabolt Jones of Jefferson, Ga.

Dr. WillieNell Bryant Pitts ('83), Enid, Oklahoma, is a pediatrician specializing in developmental disabilities and mental retardation. She and her husband, the Rev. Cornelius Pitts, have a son, Michael Elijah, who has been named one of Oklahoma's three semifinalists in the 38th annual National Achievement Scholarship Program, an academic competition for black American high school students. Elijah and approximately 1,500 scholastically promising high school seniors will continue to compete for more than 700 achievement scholarship awards, worth some $2.5 million, that will be offered next spring for college undergraduate study.

Dr. Kay Mitchell ('86) has been elected to the American Medical Association Council on Medical Education. The council works with national organizations to set and monitor policy regarding medical education, residency training and continuing education. Dr. Mitchell specializes in internal medicine.

Dr. Brian K. Brzowski ('88), Ogden, Utah, recently was granted fellowship in the American College of Surgeons and membership in the American Society of Plastic Surgeons.

Dr. Geoff Deutsch ('95) and **Kristin Faress** (M.S.N., '99) will marry Feb. 23 in Atlanta. They live in Springfield, Ore.

Obituaries

Dr. Robert B. Quattlebaum ('45) died June 19.

Dr. Richard W. Noble ('69) died of lung cancer Sept. 7. He lived in Portland, Ore., and had a general medical practice with special interest and skill in herbal medicine.

School of Nursing

Lori Braswell Knecht (1996) and Dr. Lance Knecht (School of Medicine, 2000) announce the birth of their son, Jackson Holiday Braswell. He was born June 26 in Mobile, Ala., weighing in at 7 lbs., 8 oz. Visit http://www.mobilewebcreations.com for baby pictures.

Deadline for submitting information for publication in the winter issue of AlumNews is February 4, 2002.

Alumni! Let us know what's new with you by taking a moment to fill out this form. Also, please send us your curriculum vitae so we can keep your files up-to-date.

☐ Male ☐ Female

Today's date

Name

Telephone number

School graduated from

Degree Class year

Street address ☐ Check if new address

City State Zip

Present specialty and place of training

Professional news (attach additional page if needed)

Personal news (photos welcome)

Please send to: *Christine Hurley Deriso; FI-1042; Medical College of Georgia; Augusta, GA 30912; fax to (706) 721-6723 or e-mail to cderiso@mail.mcg.edu.*

Students Make Education Fun at Champ Camp

Christine Hurley Deriso

Physical therapy students lead Champ Camp participants in a learning game

It's a sunny July morning, and several Augusta-area kids—clad in their de rigueur uniform of shorts, T-shirts and sneakers—are playing an intensely competitive baseball game.

"Bring me home, Brendon!" shouts a runner on third base.

Brendon trots up to home plate…but there's no bat. This baseball game requires intellectual, rather than athletic, prowess. The only way Brendon can get on base is to correctly answer a question. If he gets it right, he advances to a base. If he misses, that's a strike, and his teammate gets a shot at answering it. Three strikes and they're out. Three outs, and the other team's up. Got it?

Well, the kids sure get it. They're having a ball cheering each other on, clowning around with their "coaches" and furrowing their brows in concentration as they struggle to answer the questions pitched their way.

The questions are about their medical condition. All these kids have asthma and are attending Champ Camp, a weeklong day camp for children age 6 to 12 held at the Jewish Community Center in Columbia County sponsored by the Augusta affiliate of the American Lung Association. The camp provides a mix of fun and education to help asthmatic children better cope with their condition.

As part of their curriculum, Medical College of Georgia respiratory therapy students serve as camp counselors and develop educational games to help children and their parents understand their disease, a respiratory disorder that, left untreated, can transform the simple act of breathing into a tortuous and even deadly struggle. Champ Camp teams are awarded points and prizes for knowing, for instance, the purpose of their medication, how to assess their lung capacity and how to help themselves in a medical emergency.

But although the educational message is vital, the top priority at Champ Camp is fun. The campers spend plenty of time just playing, and the educational sessions are as entertaining as they are informative.

One this particular morning of camp, as one group is playing the baseball game, another is giggling its way through a raucous game of musical chairs. The kids dance around the chairs—one too few—to the beat of a top-40 hit, then scramble for a seat when the music ends. The one left standing selects a child in a seat to answer a question about asthma. Another game uses colorful bouncing balls to reinforce asthma-related information.

"The kids learn how to properly control their asthma, but even more importantly, they have a chance to have fun and realize that even though they have asthma, they can be just like other kids," says Kitty Hernlen, an instructor in the MCG Department of Respiratory Therapy.

"My favorite part of the week is the recap," says second-year respiratory therapy student Clarence Godfrey. "First, we challenge their knowledge and make them curious about questions they can't answer. Then at the end of the week, we give them the whole depth of information and it all comes together. They've learned so much without even really realizing they were learning while they were having fun."

The games are so fun and creative that the program received the American Lung Association Volunteer Excellence Award for an Innovative Tem Project last year. "Our respiratory therapy faculty made a commitment that patient education was very important for our students and we wanted to give

them real-life experience," says Dr. Randy Baker, interim chairman of the Department of Respiratory Therapy.

"The students have worked really hard preparing the games, and they're also finding out what it's like to teach," Ms. Hernlen says. "It gives them a new perspective."

The students also form lasting bonds. The kids give the counselors frequent hugs and lounge on their laps during the games. "We really have fun together," Mr. Godfrey said. "And we know we're helping them. Everybody's asthma is unique. Kids have different triggers, different onsets, different levels of severity. The better they understand their asthma, the better quality of life they'll have. That's what this is all about."

Program Seeks to Alleviate Shortage of X-Ray Technologists

Christine Hurley Deriso

The Medical College of Georgia has joined forces with Augusta Technical College to try to combat a shortage of X-ray technologists.

In the fall, Augusta Technical College began an associate-degree program in radiography in which much of the course work and clinical training is completed on the MCG campus. The program accepts up to 20 students.

The students' degrees will be from Augusta Technical College, but MCG faculty in the Department of Radiologic Sciences will teach most of their courses, often alongside MCG students earning a bachelor's degree in the field.

"Their training options and curriculum are less extensive than MCG students', but they actually are in many of the same classes with our students and train at the same clinical sites," said Dixon Barthel, MCG's radiography program director.

Successful students in the program will have the option of continuing on in MCG's program and earning their bachelor's degree, which will bolster their career choices and earning power.

MCG phased out its associate-level programs, including one in radiography, in the 1990s. "When MCG's associate-degree program was phased out, it left a void in the community," said Mr. Barthel. "Over the past three years, we've been unable to graduate enough students to fill the available positions—a situation that reflects a national shortage. Our faculty brainstormed about how to solve the problem and decided to help Augusta Technical College start its own program."

With MCG's infusion of faculty and other campus resources, including training opportunities, Augusta Technical College now has the means to offer the program, said Dr. Greg Passmore, chairman of the MCG Department of Radiologic Sciences. "It's nice we can work together for the benefit of the students and the community," he said. "Our department has formed numerous alliances with other institutions to try to improve recruitment and enrollment in our programs. For instance, we offer radiography and nuclear medicine programs on the Columbus State University via distance-learning. We're doing a lot departmentally, from active recruiting to innovative teaching techniques and education alliances, to increase the number of students and try to alleviate health care shortages in these vital areas."

Radiologic Sciences Students Receive Awards

Three seniors in the Medical College of Georgia Department of Radiologic Sciences have received awards from the Southeastern Chapter of the Society of Nuclear Medicine, an organization of physicians, chemists and radiopharmacists.

Amanda Brautigan won first place and Heather Kerlin second place in the Technologist Abstract category. They discussed their abstracts during the chapter's meeting Nov. 9-11 in Savannah. Also during the meeting, Hanna Teferra's research poster was displayed. The students' abstracts and poster explain and illustrate their research dealing with different aspects of radiologic technology.

Elective Rewards High-Achieving Dental Students

Christine Hurley Deriso

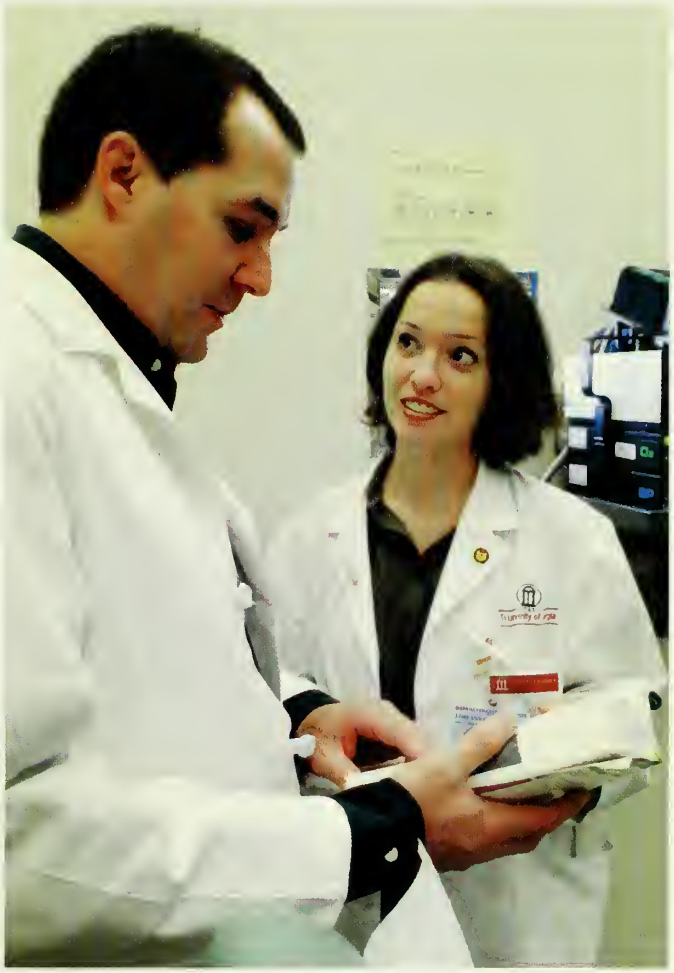
Senior Fever. Even the most diligent, motivated students tend to get a little antsy and half-hearted as graduation nears...right? Not at the Medical College of Georgia School of Dentistry, where a new elective has transformed the last semester of school into one of the most coveted educational segments for seniors.

Last year, Dr. Robert W. Comer, associate dean for patient services and chairman of the Department of Oral Diagnosis, brainstormed with the faculty about how to enliven the last step of dental school while rewarding top-performing students.

"We wanted to take the extra step of providing exceptional students with an experience beyond the curricular basics," he said. "It was a way to honor class leaders by providing a variety of experiences designed to improve the transition into independent practice."

They created the Senior Honors Elective Program, providing highly autonomous clinical experiences for honors students in their last semester of dental school. Each department offers elective opportunities and faculty members volunteer their support.

"Dental students generally focus on one clinical skill at a time, performing it over and over until they demonstrate competency to practice independently," Dr. Comer said. "But in this elective, the school sets aside a clinic and allows students to choose the skills or advanced procedures that they select."



Lori Carithers, a senior in the University of Georgia pharmacy program, rotated through the MCG Department of Oral Diagnosis and Patient Services last fall. The rotation, initiated last year as a cooperative agreement between the two universities, familiarizes pharmacy students with dentistry and its relationship to their profession. Lori also audited oral medicine and oral diagnosis classes and spent time in emergency, oral diagnosis and hospital dentistry clinics, helping dental students learn about their patients' medications.

The faculty peruses patient files and identifies those who need selected procedures. "It's really a golden opportunity for the patients," Dr. Comer said, noting that the patients are fully informed of, and must consent to, the arrangement. "They're getting work from our best students, and getting it quicker than they would going through normal procedures."

The students are supervised, but not as closely as in their other clinical rotations, Dr. Comer said. "They have earned the freedom to work

in a limited-evaluation environment, propose treatment and provide the full spectrum of necessary procedures," he said. "We dramatically increased the students' learning experiences, which means we also increased patient services."

The program couldn't have succeeded without the dedication and support of the faculty, he noted. "The faculty's extra efforts were remarkable," Dr. Comer said. "They prepared the opportunities and challenges and the students responded with skill and enthusiasm. The students were incredibly fortunate to have volunteer faculty whose abilities complemented the program."

Drs. John Blalock, Rick Callan, Randy Pohjola and Mike Pruett brought strength and practicality from their recent general and private practice experiences. Drs. Eladio DeLeon, Robert Loushine and Antwan Treadway provided advanced techniques in endodontics, orthodontics and oral and maxillofacial surgery. Drs. Steve Adair and Tara Schaffer helped students manage behavioral and technical pediatric problems. Drs. Wayne Herman, Joseph Konzelman and Brad Potter mentored students in treating medically compromised patients with complex diagnoses.

To further simulate the realities of private practice, Marie Collins, chairwoman of the Department of Associated Dental Sciences, paired participants with dental hygiene students and Tammy Van Cise managed appointments and schedules. Debi Drummond, Angela Jenkins and Julie Paist ensured that students had support staff and a complete range of supplies, instruments and equipment needed to establish a new clinical service.

The 30 dental students who participated in the new elective last spring reacted enthusiastically. "Some went into it with trepidation and some with excitement, but they all came out of it with excitement," Dr. Comer said. The class even presented Dr. Comer with a framed drawing of the School of Dentistry by class member Jason Stevens to show their appreciation.

Dr. Comer surveyed the students after the course and found that 89 percent of them strongly appreciated the opportunity to participate. Eighty-two percent strongly recommended continuing the program, and 71 percent found the experience a positive transition from school to independent practice.

"The opportunity to work more independently was the biggest benefit for me personally," one participant wrote. Others noted that the elective provides "a great chance to see how to use new technology" and "introduced new equipment and procedures that I can use in private practice."

"I think it is a great idea to try to give the students an extra bonus program to see things not normally seen in regular requirements," one wrote.

Dr. Comer hopes the elective will serve as an incentive for other students. "I think the students took a tremendous amount of pride in being selected for this," he said. "There's a lot of buzz in the junior class, trying to figure out how they can qualify."

Faculty Named Fellows of American College of Dentists

Drs. Kevin B. Frazier and Brad J. Potter, faculty in the Medical College of Georgia School of Dentistry, have been named fellows of the American College of Dentists.

The American College of Dentists, a nonprofit organization of dentists who exemplify excellence in the profession, was founded in 1920 to elevate the standards of dentistry. Fellowship honors members whose professional achievements are particularly noteworthy.

Dr. Frazier, associate professor in the Department of Oral Rehabilitation, earned his dental degree with high honors from the University of Florida College of Dentistry. He joined the MCG faculty in 1995 and has served as director of the MCG Student Health Dental Clinic since 2000. He received the 2000 American College of Dentists Professionalism Award (Georgia chapter) and is a member of the American Dental Association, the Academy of Operative Dentistry and the American Dental Education Association.

Dr. Potter, interim dean of the School of Dentistry and professor in the Department of Oral Diagnosis and Patient Services, earned his dental degree from Northwestern University Dental School in Chicago and joined the MCG faculty in 1991. He received the 1999 School of Dentistry Outstanding Faculty Award, the 1998 Outstanding Clinical Faculty Award presented by senior dental students and the 1995 Teaching Excellence Award presented by dental faculty . He received Judson C. Hickey Awards from senior dental students in 1995 and 1999. He chaired MCG's Presidential Search and Advisory Committee in 2000-2001.

Dr. Schuster Named Interim Associate Dean

Dr. George S. Schuster, chairman of the Medical College of Georgia Department of Oral Biology and Maxillofacial Pathology, has been named interim associate dean for research in the School of Dentistry.

Dr. Schuster, an Ione and Arthur Merritt Professor, will administratively direct and coordinate the school's research activities, according to Dr. Brad Potter, interim dean of the School of Dentistry.

Dr. Schuster has joint appointments in the MCG School of Graduate Studies, the School of Dentistry Department of Oral Rehabilitation and the School of Medicine Department of Cellular Biology and Anatomy. He has chaired the Department of Oral Biology and Maxillofacial Pathology since 1995.

Researchers Probing Body's Response to Radiation

Toni Baker

Powerful radiation needed to kill cancer cells also can break DNA, the body's basic building block, and researchers want to understand the natural response that rapidly repairs the damage 95 percent of the time.

They are identifying the steps that lead to the successful repair of major breaks in the DNA both for the knowledge and because when it doesn't happen, cancer might.

"The best thing that happens when DNA doesn't repair properly is your cell dies; the worst thing that could happen is it multiplies," said Dr. William S. Dynan, biochemist and chief of the Program in Gene Regulation at the Medical College of Georgia Institute of Molecular Medicine and Genetics.

The body's DNA is constantly bombarded by radiation from the environment, including the sun, which causes single strands of the double-stranded DNA to break. More powerful ionizing radiation, such as that received by cancer patients or generated by nuclear power and defense facilities, can literally cut DNA in half. "You make a break and, minutes later, it is fixed," Dr. Dynan said. Scientists call that repair system the guardian of the genome.

When the cell repaired is cancerous, radiation therapy becomes less effective. And if the repair of a healthy cell exposed to radiation is faulty, radiation designed to destroy cancer may end up contributing to it.

"Most people think that cancer results from a number of changes over time, not just one," Dr. Dynan said. "So if you cannot protect your genome any more, eventually you are going to have these multiple changes that lead to cancer."

When one-strand DNA breakage occurs, such as that from ultraviolet radiation, the remaining strand is used as a template for repairing the damaged strand, Dr. Dynan said. "With a double-strand break, you can't do that," he said. Instead, researchers have found that when double-strand breaks occur, an interesting protein called Ku quickly comes to the break point. "We think it makes the framework for everything else that is to come," Dr. Dynan said. So they are making large quantities of Ku—which also is plentiful in people—in the

The School of Graduate Studies Alumni Association sponsored a welcome-back reception for students, faculty, alumni and postdoctoral fellows Aug. 23 at the MCG Student Center.

lab for study.

As soon as Ku creates the framework, another protein, a large one called DNA-dependent protein kinase catalytic subunit, comes in to modify other proteins and bring in phosphates that are a cheap, easy way to turn proteins off and on, Dr. Dynan said. In the lab, they have used drugs that inhibit the kinase, which stops the transfer of phosphates and so halts the repair.

"Kinase proteins are probably the single most diverse group of genes in your genome, the kind of proteins that operate molecular switches," he said, adding that Ku doesn't appear to need a signal to rally to the DNA break point, but the kinase proteins may well alert other key components of the repair system that a break has occurred.

Researchers also have identified the final component of DNA repair: ligase, an enzyme that actually causes the chemical reaction that rejoins the DNA. Ligase has four components: two larger ones are enzymes that actually do the ligation; two smaller ones are accessory proteins that help hold the structure together while this is happening.

"Our thinking is that you need two molecules of the ligase because there are two strands of the DNA and you want to ligate them in a coordinated way," he said. "After the ligase is done, the DNA is just like it was when it started."

It's important to reconstruct the guardian of the genome in the test tube in order to understand how it helps maintain a healthy body and because of its implications in cancer and cancer treatment, Dr. Dynan said.

"People think failed attempts at repair are very important in why radiation produces cancer. It doesn't just produce damage to the DNA, but it also may set the DNA up as a mess that just gets worse and worse," he said. "It's kind of a cycle of instability that can arise from an incorrect repair."

On the flip side, understanding how the repair system works correctly opens the potential for manipulating the system—for example, turning it off in cancer cells to improve the effectiveness of radiation.

MCG researchers also are exploring other potential roles of the key protein, Ku, in aging and autoimmune disease. Ku was first characterized about 20 years ago by Dr. John A. Hardin, a 1969 graduate of the MCG School of Medicine and former chairman of the Department of Medicine; the name Ku was derived from that of a Japanese woman with autoimmune disease who produced a lot of antibodies to Ku, for some still unexplained reason.

Xingwen Dong and Kyungiong Lee, researchers in Dr. Dynan's group, more recently found that a small percentage of people with autoimmune disease also make antibodies to ligase, the enzyme that puts the finishing touches on DNA repair. Dr. Joseph P. Bailey Jr., a 1955 graduate of the MCG School of Medicine who recently retired as chief of the Section of Rheumatology, provided key study samples.

"Now we don't know any component of that repair system that is not recognized as an antigen by some people with autoimmune disease," Dr. Dynan said. "But it's not clear why that is."

Researchers also know that mice genetically engineered to lack Ku age rapidly, over a period of months instead of a couple of years. "We don't know of any people who lack this Ku system," Dr. Dynan said, but certain syndromes in humans cause an accelerated aging process in which Ku has a still undefined role.

Dr. Dynan's work is funded by the National Science Foundation, the National Institutes of Health and the Department of Energy.

Age-Related Infertility Studied

Toni Baker

An amino acid that helps brain cells communicate and is a suspect in age-related memory problems may also have a role in age-related infertility.

A Medical College of Georgia researcher wants to know whether the transmitter, glutamate, found in about half the junctures where brain cells communicate, continues to work properly as women age.

"We want to understand a basic science problem of how aging leads to a loss of reproductive function," said Dr. Darrell W. Brann, MCG neuroscientist, who was recently awarded a $1 million grant from the National Institute of Aging to pursue that understanding.

He wants to know if glutamate effectiveness is altered with age, causing disruptions in the circle of communication between a woman's brain and reproductive system that ultimately leads to ovulation.

These changes likely occur in women in their 40s, who may have a decade or more before they reach menopause, and may actually lead to premature menopause, Dr. Brann said.

And although his work is focused on the changing activity of glutamate in the reproductive system, he believes the age-related changes apply to other brain functions, such as memory, as well.

"We have done a lot of work showing that glutamate is involved in regulating

Dr. Darrell W. Brann

hormones released by the brain that control the ovulatory cycle," he said. This includes regulation of gonadotropin releasing hormones, or GNRH, the central regulating signal.

The circle of communication begins when the ovary produces a follicle large enough to release an egg. The follicle then makes a lot of the chemical messengers, estrogen and progesterone, which get into the bloodstream, go to the brain and bind to receptors in the hypothalamus. The hypothalamus stimulates a large release of GNRH at midcycle which goes to the pituitary gland, prompting the release of two more hormones: luteinizing and follicle stimulating hormone. Luteinizing hormone goes to the ovary, where it binds to a receptor and causes ovulation, Dr. Brann said.

His studies have inserted glutamate into this mix, producing evidence that estrogen and progesterone don't act directly on the GNRH neuron, but through glutamate. "We don't see any receptors for estrogen and progesterone on the GNRH neurons, but they have been found on glutamate neurons," Dr. Brann said. They have shown that in a luteinizing hormone surge, glutamate release in the hypothalamus is increased and that if glutamate is blocked, the surge is eliminated. "That suggests that glutamate is critical for the LH surge," he said. They also know that in the middle-aged rat at least, there is a decrease in the LH surge which is ultimately responsible for the release of an egg. And, even if they increase the amount of glutamate, GNRH release is markedly down in these middle-aged rodents as well. "Glutamate is not doing what it's supposed to be doing, what it does very well in the young animal," Dr. Brann said. "So that raises the question of why."

He is probing whether glutamate release can decrease with age or whether its effectiveness just decreases. "We have already shown that glutamate stimulation of GNRH is decreased at middle age, so it raises the question, 'Are there the right number of receptors in the right place?'

"Receptors have to be at the synapses, where two cells come together to communicate, to be effective. "Maybe the right number of receptors are there, but maybe they are not at the right place in the cell," Dr. Brann said. He also is measuring the activity of anchoring cluster proteins responsible for targeting receptors to these synapses.

And he has brought another player into the picture: nitric oxide, a short-lived yet abundant, multipurpose gas found throughout the body. "We postulate that glutamate stimulates GNRH by activation of nitric oxide," he said. So the glutamate problem may result from a nitric oxide deficiency. To explore that angle, he is also measuring levels of nitric oxide as well as the activity of its precursor, nitric oxide synthase. "Maybe glutamate is working fine up to this point and nitric oxide is not made in proper quantities," Dr. Brann said. "Or, maybe the nitric oxide is made properly but the GNRH neuron doesn't respond properly, so we are talking about receptors again.

"The fact is we don't really know that much about the aging brain," he said. "We see deficits, such as loss of reproductive function, as abnormal. I think this is probably a normal process, but we want to explain in detail the aging brain's role in infertility in women."

Dr. Yu Elected President of Society

Toni Baker

Dr. Robert K. Yu, director of the Medical College of Georgia Institute of Molecular Medicine and Genetics, has been elected president of the American Society for Neurochemistry.

Dr. Yu will serve a two-year term as president of the 800-member organization established in 1970 to advance the study of the chemistry of the central nervous system.

His duties include presiding over the 33rd society annual meeting in June in Palm Beach, Fla. Dr. Yu has been a society member since 1973.

He came to MCG in 2000 from the Medical College of Virginia, Virginia Commonwealth University where he served as professor and chairman of the Department of Biochemistry and Molecular Biophysics since 1988. At the Medical College of Virginia, he also served as professor of chemistry and neurology, health administration and otolaryngology and director of the Neuro-Oncology Group at the Massey Cancer Center.

Dr. Yu earned his doctorate in biochemistry from the University of Illinois in Urbana in 1967, then completed a postdoctoral fellowship in neurochemistry at Albert Einstein College of Medicine in Bronx, N.Y. His research in glycolipids, components of all body tissues, in normal and pathological brain tissue and neuropathy is funded by the NIH, the National Multiple Sclerosis Society and several private foundations.

Dr. Robert K. Yu

Dr. Stenstrom Named Louis Schmidt Laureate

Dr. William Stenstrom, Chairman Emeritus of the Medical College of Georgia Department of Medical Illustration, has been named a BioCommunications Association Louis Schmidt Laureate.

The BioCommunications Association provides support, educational resources and expertise for users and producers of communication media in the life sciences. The Louis Schmidt Laureate is the highest honor of the association, named for its founder and second president. The honor

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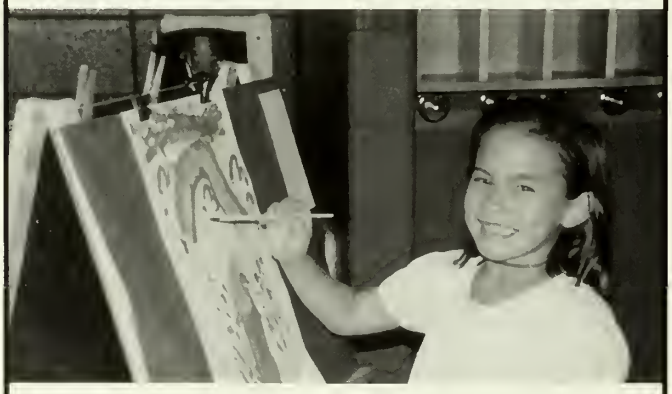

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Dr. Stenstrom completed training in medical illustration at Massachusetts General Hospital in Boston in 1952. He earned a master's degree in education from Georgia Southern College (now Georgia Southern University) in 1980 and a doctorate in education from the University of Georgia in 1989.

He was named a fellow of the BioCommunications Association in 1988 and is a past president of the Association of Medical Illustrators. Dr. Stenstrom has received an Association of Medical Illustrators Lifetime Achievement Award, an MCG School of Allied Health Sciences Distinguished Service Award, an Institute of Medical and Biological Illustration Premier Award and four awards for best paper and illustrations by the BioCommunications Association.

Medical Illustrators Receive Awards

A Medical College of Georgia Department of Medical Illustration faculty member and student have received awards from the Association of Medical Illustrators.

Andrew E.B. Swift, assistant professor, received an Award of Excellence for his poster illustrations titled "Advances in Brain Tumor Gene Therapy." Second-year student Andrew Rekito received a Certificate of Merit for his surgical illustration series titled "Lumbar Laminectomy."

MCG neurosurgeon James C. Fick provided technical direction for both series.

The awards were presented at the association's annual meeting in Asilomar, Calif., July 31 through Aug. 5.

Professor Emerita Honored

Octavia Garlington, Professor Emerita in the Medical College of Georgia Department of Medical Illustration, has received the 2001 Broedel Award for Excellence in Education by the Association of Medical Illustrators.

The award is presented annually to a medical illustrator who has made outstanding educational contributions to the profession. It was named after Max Broedel, who organized the first instructional program in arts as applied to medicine at Johns Hopkins University.

Ms. Garlington retired from MCG in 1990 after serving on the faculty for 30 years.

Sculpting Avocation Takes Shape

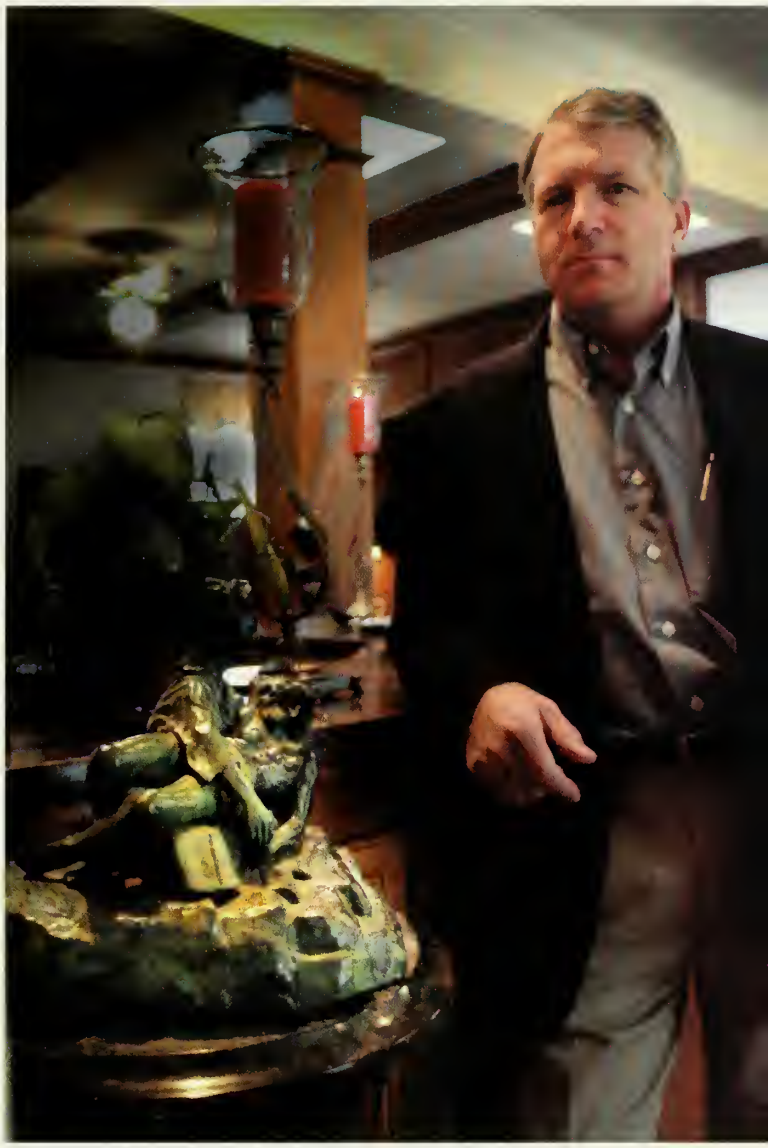
Christine Hurley Deriso

Medical school is so notoriously challenging and time-consuming that many in its grips barely find time for lunch, let alone hobbies. But Dr. John Savage wasn't one of them.

Even as a medical student at the Medical College of Georgia, Dr. Savage had an artist's soul that clamored for attention. It's not that he didn't enjoy his studies—a passion that dated back to summers as a teen working in his grandfather's little country hospital in Montezuma, Ga. "My grandfather (Dr. Carl P. Savage, a 1925 graduate of the MCG School of Medicine) had a general practice, and he did a little bit of everything," Dr. Savage recalls. "I helped out with lab work, in the operating room...wherever I was needed. It was a good way to spend the summers. My grandfather encouraged me all through those years. Without him, I'd never have become a doctor."

So as he sat through his lectures at MCG, he anxiously absorbed all the information he would need to begin his own practice. But he had another passion as well. With a painter for a father and an art teacher as a mother, his genetic heritage would not lie dormant. Dr. Savage began sculpting in his spare time.

"The first thing I did was a bust of Dr. Bill Chew (a 1958 graduate of the MCG School of Medicine), one of my professors. I thought his face was really interesting. I sculpted the bust in clay as he posed for me and I worked from some pictures he gave me. My mother fired it [in the oven] for me and it didn't blow up," he says with a laugh. That was all the positive reinforcement he needed.



Dr. John Savage

But for the most part, the hobby simmered on the back burner while he completed his medical education. He graduated from MCG in 1977, completed orthopedics and general surgery residencies in Savannah and at MCG, respectively, then began practicing orthopedics in Augusta with Dr. Gus Carswell, a 1945 graduate of the MCG School of Medicine.

"I was kind of miffed when I realized I had to specialize," Dr. Savage says. "I wanted to do everything, like my grandfather did. But it was the 1970s, and that was impractical and impossible. So when I had to choose, what I found most interesting was orthopedics. I'm a realistic sort of person. I like things to be concrete. In orthopedics, you have a clear problem at hand—a fracture or a musculoskeletal

disease, for instance—and you can do a definitive procedure and make the patient well."

He also loves working with his hands. "A lot of orthopedic surgeons are hands-on kinds of people," he says. "They've always got a project going—crafts, construction, something."

About 10 years ago, he reignited his sculpting hobby in earnest. He took photos of a colleague's horse, which he used to sculpt a clay model and cast the mold in bronze. It was time-consuming and expensive—"bronzes are pretty costly, so you can't just play at it," he notes—but utterly satisfying. He's been sculpting ever since.

He has created about 20 bronze sculptures, including animals and golf legend Bobby Jones. "There's so much abstract work around and not much representational art, which is what I prefer."

He has a studio in his home, which is liberally decorated with his artwork. "It almost makes me jealous," says wife Celeste, who earned an associate degree from MCG in radiologic technology in 1976. "I just look at his work and think, 'How does he do it?'"

Dr. Savage also sells his artwork occasionally and gives it to family and friends; he donated a piece recently to the American Cancer Society, which auctioned it off for $3,500. But his chief claim to fame is his sculpture of the Ray Guy Award, a national award presented by the Greater Augusta Sports Council to the top punter in college football. The first was presented to Kevin Stemke in 2000.

"The Sports Council wanted something like the Heisman Trophy—something easily recognizable," Dr. Savage says. "And they wanted a local artist because Ray Guy [a former Oakland Raider widely considered one of the best punters in the history of football] is from Thomson, Ga."

Dr. Savage began the project by creating small mockups from sketches and pictures of Mr. Guy. The council approved one, then Dr. Savage spent about a month creating the sculpture. It needed to be flown to Sarasota, Fla., but Dr. Savage didn't trust the artwork to baggage handlers. "I personally escorted it down on the plane," he says. "The airline wouldn't let me hold it on my lap, so I had to buy a seat for it. I put it in a box and put a seatbelt around it on the seat beside me."

When he had to change planes in Atlanta, the airline balked at his seat mate. "They wouldn't let me put it in a seat. I said, 'But I have a ticket for this thing!' They still insisted that I put it in the plane's closet."

Despite the complications, the sculpture arrived intact at the foundry, where it was cast into bronze.

The project has brought national attention to Dr. Savage's artwork. "The Sports Council had a special banquet for Ray Guy in Augusta. When he gave his speech, he recognized me as the sculptor of the trophy and asked me to stand," he says. "It was a big night for me. This is the most exciting thing I've done with my art so far."

The School of Medicine Alumni Association sponsored a brunch Aug. 3 at the Old Medical College to welcome freshman to the School of Medicine.

Doctors Document Rare Cancer

Toni Baker

The common hemorrhoid shares many symptoms with a rare but extremely aggressive anal melanoma, according to doctors at the Medical College of Georgia.

The doctors' findings were published in the *Southern Medical Journal* to help make primary care doctors aware that patients with persistent symptoms that mimic hemorrhoids may have this deadly cancer.

"I haven't yet met...a primary care doctor who has ever heard of this," said Dr. Mike Felz, family medicine physician and lead author of the article published in the journal's September issue that profiles four such cases at MCG in recent years.

In fact, Dr. Felz hadn't heard of anal melanoma until he received pathology results on a patient who also happened to be a friend. The patient, a 58-year-old male from South Carolina, had come to have his blood pressure checked and mentioned, on his way out the door, that he had what he thought to be a hemorrhoid. Dr. Felz performed a rectal exam and found the growth was hard

and difficult to move. When he followed up with a flexible sigmoidoscopy to fully view the rectum and lower portion of the large intestines, he saw the tumor.

Dr. Felz wrote the journal article with the specialists who helped treat the patient: Dr. Jeffrey R. Lee, a gastrointestinal pathologist; Dr. Virginia B. Winburn, a gastrointestinal surgeon; and Dr. Andre M. Kallab, a hematologist-oncologist.

Even colon and rectal surgeons rarely see this cancer—which accounts for .25 percent to 1.25 percent of all malignancies in the anus—but it *is* considered when patients have persistent bleeding, itching, discomfort and discharge from what they believe to be hemorrhoids, Dr. Winburn said.

They recommend an annual rectal exam for adults age 45 and older; an annual sigmoidoscopy beginning at age 50 with follow-up colonoscopy if a suspicious area is found; and a biopsy of atypical rectal lesions.

Problems with hemorrhoids affect about half the population; in fact, hemorrhoids are a normal part of the anatomy and only become problematic when they grow from great strains such as childbirth, heavy lifting or constipation, Dr. Winburn said.

All four patients treated at MCG Hospital for anal melanoma were originally diagnosed with hemorrhoids. Even with aggressive therapy, including surgery and chemotherapy, all four died within 37 months of diagnosis of anal melanoma; one lived only six months. However, Dr. Felz cited data indicating that about 10 percent of patients may live for an extended period with the disease, some up to 25 years.

Anal melanoma is distinctly different from skin cancer, said Dr. Lee, who also is chief of pathology at the Department of Veterans Affairs Medical Center in Augusta. Sun exposure is obviously not a risk factor for anal melanoma; in fact, most anal melanomas have been found in people who live north of the equator, while melanomas of the skin are most common along the equator and south where sun exposure is greater, he said. The cause of anal melanoma in unknown.

Dr. Raulston Loses Battle with Cancer

Editor's note: This obituary was written by University of Illinois at Chicago Vice Chancellor for Health Affairs Charles L. Rice, a 1968 graduate of the Medical College of Georgia School of Medicine.

On Oct. 4, 2001, MCG lost a loyal alumnus. Dr. Robert O. Raulston died after a yearlong struggle with cancer at his home in Oklahoma City.

Born in Trenton, Ga., Bob graduated magna cum laude from the University of Chattanooga with a bachelor's degree in English. After graduating from MCG in 1968, he completed his internship at Walter Reed Army Medical Center. He then served as a general medical officer in the U.S. Army for two years in Turkey and at Fort Riley, Kansas. He completed a residency in urology at the University of Oklahoma and remained in Oklahoma City to practice. He was highly regarded by his colleagues, patients, students and residents for his skill as a surgeon and as a caring, compassionate physician.

Classmates will remember that Bob was an excellent student but always knew when the fish were biting under the Little River Bridge. He continued his love of the outdoors in Oklahoma and was an accomplished hunter and fisherman. He never lost his love of travel and often emphasized the value to one's equanimity in having plane tickets for the next trip in the desk drawer.

Bob's decision to remain in Oklahoma City to practice was due entirely to having met and married an Oklahoma lady, Judy. Bob and Judy had three wonderful children: Elizabeth, Annie and J.E.B.

We will miss him a lot but are grateful for having known him.

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New Dean Joins Nursing School

Christine Hurley Deriso

Dr. Marlene M. Rosenkoetter, professor of the School of Nursing and associate director of Gerontology Programs at the University of North Carolina at Wilmington, has been named dean of the Medical College of Georgia School of Nursing.

She succeeds Dr. Vickie A. Lambert, dean of the School of Nursing from 1990 until her retirement in 2000. Dr. E. Gerald Bennett, associate professor in the Department of Mental Health/Psychiatric Nursing and senior scientist in the school's Center for Nursing Research, has served as interim dean while a national search was conducted for Dr. Lambert's successor.

"I am both pleased and excited about Dr. Rosenkoetter joining MCG as the next dean of the School of Nursing," said Dr. Barry Goldstein, MCG senior vice president for academic affairs. "She brings to MCG a strong background in teaching, research, service and administration which will help the School of Nursing and MCG move strategically forward. I look forward to working with her in achieving the strategic goals of the school and the institution."

"MCG is an outstanding institution and the School of Nursing is an excellent example of the quality at MCG," said Dr. Rosenkoetter. "I look forward to being a part of the new direction the school will take."

Dr. Marlene M. Rosenkoetter

Dr. Rosenkoetter earned a master's degree in nursing from East Carolina University, a master's degree in education from the University of Missouri and a Ph.D. in education from Saint Louis University.

In 1985, she was named the founding dean of the University of North Carolina at Wilmington School of Nursing, a position she held for nine years. During her career, she has extensively studied lifestyle and health issues associated with retirees and the elderly.

Dr. Rosenkoetter is a fellow of the American Academy of Nursing and a member of the Academy of Creative Teaching, the American Nurses Association, the American Society on Aging, the Gerontological Society of America and Sigma Theta Tau.

Nurse Researcher Publishes Reference Book

Christine Hurley Deriso

A Medical College of Georgia faculty member has co-edited the third edition of a book that health care providers and students worldwide use as a reference tool.

Dr. Cynthia C. Chernecky, associate professor in the Department of Adult Health Nursing, Barbara J. Berger, director of nurses at University Hospitals Health System in Bedford, Ohio, and Ruth Krech, a clinical nurse specialist at the Cleveland Clinic in Cleveland, Ohio, produced the first edition of the book, *Laboratory Tests and Diagnostic Procedures,* in 1993. The book, published by W.B. Saunders Co., was so successful that an updated edition was subsequently published in several languages. The third edition, with still more updated information, was published this year. Dr. Chernecky and Ms. Berger served as editors of the second and third editions.

The book compiles information and expertise from health care providers, including many at the Medical College of Georgia, regarding more than 900 laboratory tests and diagnostic procedures. The first section is categorized by disease or illness. The reader looks up a particular condition to determine the tests and procedures recommended to diagnose and/or treat it. The second section

explains all the tests. Also included are lists of the potential side effects and contraindications of treatments and tests, the minimum blood volume needed for a test if applicable, information about genetic testing and a section about herbal and natural remedies.

"The text is well-organized with plain English," wrote a customer in a review posted on Amazon.com. "This is a very useful book that I'd like to recommend to every medical student."

The book is equally apt for other health sciences students and professionals in every area of health care, Dr. Chernecky said. "I wrote [the first edition of] the book out of frustration because as a clinician, I found nothing out there that was quick, accurate and comprehensive enough to optimize patient care," she said.

She began the project with a wealth of information from her own experience as a nurse, educator and researcher. She and Ms. Berger then tapped the expertise of their own colleagues, as well as health care professionals from other universities. Dr. Chernecky said she enjoyed immersing herself in the works of faculty from all five of MCG's schools. "I think it shows that the schools can work together at MCG and create a good project, particularly when the subject is excellent patient care," she said.

The first edition of the book took seven years to complete. "We were starting from scratch," Dr. Chernecky noted. "Then, as soon as the first edition was published, we started compiling information for the next edition, and then the next."

Dr. Chernecky has written 14 health care books throughout her career, including four books in a series, *Real-World Nursing Series* published by W.B. Saunders Co., explaining particularly difficult nursing concepts. "I've enjoyed working as an editor and author, then using the experience to mentor my colleagues about the process," she said.

Dr. Topp Named Associate Dean

Christine Hurley Deriso

Dr. Robert Vincent Topp, an exercise physiologist and nurse researcher, has filled the Medical College of Georgia's newly created Kellett Chair in Nursing as the school's associate dean for research.

He will direct the school's research strategic plan and help the faculty cultivate research with other MCG schools, clinical agencies, universities and private industry. He also will continue his own research in areas such as the benefits of exercise and strength-training in helping overcome illness, injury and infirmity.

Dr. Topp came to MCG in August from the Medical College of Ohio School of Nursing, where he was director of clinical nursing research. He earned a master's degree in nursing from the University of Cincinnati and a doctorate of philosophy in health education/exercise physiology from Ohio State University. He completed a postdoctoral fellowship in geriatric medicine from the University of Pennsylvania.

He received the 2001 Medical College of Ohio Recognition Award for Outstanding Contribution to Scholarship within the School of Nursing and the 1999 Society of Gastroenterology Nurses and Associations Inc. Outstanding Research Award.

Dr. Topp is a member of Sigma Theta Tau, the international honor society of nursing.

Nurses Find Common Ground in England

Christine Hurley Deriso

Two members of the Medical College of Georgia School of Nursing faculty traveled across the Atlantic Ocean recently to

The Department of Adult Nursing sponsored a welcome-back beach party for students Oct. 1 featuring games, pizza and faculty-baked desserts. Students voted on the best dessert by making a donation. Proceeds will benefit the American Red Cross.

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find common ground regarding nursing practices and offer support to their colleagues overseas.

Dr. Martha Bradshaw, interim chairperson of the Department of Parent-Child Nursing and coordinator of the School of Nursing undergraduate programs, and Rebecca Rule, instructor in the Department of Adult Nursing, spent several days in Durham, England in October to assess differences and similarities in nursing in the United Kingdom and the United States.

The conference, sponsored by the England-based organization, Nursing Education Today, drew about 200 nurse educators, most from the United Kingdom. Dr. Bradshaw and Ms. Rule were invited speakers, discussing their nursing education in the United States.

The MCG faculty noted that the participants had much to learn from each other. For instance, Dr. Bradshaw and Ms. Rule were impressed by the seeming ability of the United Kingdom's socialized health care system to reach every segment of society. "I noticed there didn't seem to be an issue of underserved groups," Dr. Bradshaw said.

Conversely, the British nurses were very interested in the American approach to nursing education, which stresses critical thinking and problem-solving. U.S. students have a much more extensive science foundation than their British counterparts, who can opt for a three-year associate-degree program or a four-year baccalaureate program. U.S. students also have more supervision during clinical training. In the United Kingdom, nursing faculty provide didactic lessons, but clinical skills are generally learned on the job, with seasoned nurses supervising.

"They were really impressed and very surprised that our faculty spend so much time supervising students in clinical areas," Ms. Rule said. Another difference is that nursing education is the United States is much more wellness-oriented than that in the United Kingdom, which stresses disease treatment.

The British nurses also expressed envy that U.S. nurses have more opportunities for advanced practice and are spared housekeeping duties, such as mopping floors and cleaning lavatories. "I think they recognize [those duties] are very time-consuming, particularly considering the growing demands made on nurses," Dr. Bradshaw said.

On the other hand, the MCG faculty marveled over the luxury of all-expenses-paid nursing education offered in the United Kingdom. Indeed, its students actually receive a stipend from the country while earning their degree. "Of course, the taxes are very high, too," Dr. Bradshaw said.

Nursing salaries are generally lower in the United Kingdom than in the United States, the MCG faculty noted.

Despite the differences, the nurses found that similarities abound. For instance, nurses in both countries treat many lifestyle-related diseases, struggle with nursing shortages and treat more acute illness than ever before. The biggest similarity, they found, was their common purpose. "We all want to educate safe, effective and competent practitioners," Ms. Rule said. "That is our first and foremost goal."

Course Awarded for Aiding Homebound Elderly

Christine Hurley Deriso

A Medical College of Georgia School of Nursing initiative to immerse students in the lives of homebound elderly has received a first-place award from the American Association of Colleges of Nursing.

The AACN/Hartford Institute for Geriatric Nursing Award for Exceptional Curriculum in Gerontologic Nursing honors MCG's undergraduate nursing class matching students with the some of the community's most vulnerable citizens. The students, supervised by course director Cathy Green, travel in pairs to the homes of infirm and relatively isolated elderly Augustans. The students, who visit each resident six times, follow a set of guidelines, including reviewing medications and measuring vital signs, to assess health and safety issues.

The guidelines were developed from the *Best Nursing Practices in Care for Older Adults,* written by the John A. Hartford Institute for Geriatric Nursing at New York University's Division of Nursing.

"This is a hidden population," Ms. Green said of the elderly her students visit. "Nobody sees them because they're at home all the time. [Our visits] may be the first time anybody has positively impacted their lives in a long time."

As the nursing students assess the residents' overall health and safety, they also form friendships and learn to empathize with a population that otherwise may have remained largely invisible to them, Ms. Green said.

"[This initiative] demonstrates exceptional innovation, relevance and replicability, the primary award criteria," according to the American Association of Colleges of Nursing.

The School of Nursing received a $1,000 award during the association's Oct. 21 fall meeting.

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